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ABSTRACT

This fifteenth special report of the National Commission for Manpower Policy examines the interplay between the forces determining work schedules and the incidence and prevalence of unemployment. In the first chapter the author sets forth the major trends in hours of work and in the changing structure of the labor force that has led increasingly to families in which both spouses hold jobs. Chapter 2 focuses on how firms are likely to respond to changes in the demand for their products, both in periods of expansion and contraction, by altering their employment and hours of scheduling. Chapter 3 discusses existing public policies that influence the employment decisions of firms, including payroll taxes, fringe benefit policies, overtime legislation, and minimum wages. The fourth chapter discusses the potential influence of unemployment insurance, social security, private pension systems, and government fiscal policy on the labor supply. The sixth chapter briefly discusses jobs for the hard to employ labor force. The concluding chapter makes six policy recommendations to decrease the unemployment rate by encouraging a reduction in the hours of work and identifies areas where further research is needed. Cost calculations of reducing work hours and increasing the number of jobs are appended. (EM)

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Resource Development

Adjusting Hours to Increase Jobs

An Analysis of the Options

A Special Report of the
National Commission for Manpower Policy
Special Report No. 15
September 1977



CE 015 890

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Adjusting Hours to Increase Jobs

An Analysis of the Options

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A NOTE ON THE ORGANIZATION OF THIS REPORT

This paper was written pursuant to a contract with the National Commission for Manpower Policy, Washington, D.C., 20005. The opinions expressed herein are those of the author and should not be construed as representing the opinions or policy of the Commission or any other agency of the United States Government.

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FOREWORD

In the 20 recommendations that the NCMP put forward in its Second Annual Report to the President and the Congress - An Employment Strategy for the United States: Next Steps, December 1976, it dealt only tangentially with the way in which work time is divided among present and prospective members of the labor force. Specifically, the Commission noted the desirability of exploring the use of Unemployment Insurance to subsidize workers put on to shortened work schedules during a recession in order to maintain a larger total work force (page 57).

But the Commission, recognizing the importance of the interplay between the forces determining work schedules and the incidence and prevalence of unemployment had earlier elicited a contribution on this theme from Dr. Juanita Kreps as a contribution to its Jobs for Americans, edited by Eli Ginzberg, Prentice Hall, 1976. The present effort should be viewed therefore as reaffirmation by the Commission that the many aspects of time warrant extended consideration in assessing unemployment and in seeking public policies to moderate it.

In dealing economic policy issues there is frequently much to be gained by adopting a commonsensical approach to the problem that calls for solution. That is what Keynes did in the 1930s. Recognizing that the economies of the Western world were operating far below their capacity as a result of a shortfall in private investment, he argued in favor of governmental spending to take up the slack.

We know, with the advantage of hindsight, that this commonsensical answer was more or less right for the 1930s, more or less inappropriate for the last decade. But commonsense does provide one with a point of departure.

On this basis it would appear relatively easy to make a trade aimed at reducing the current excessively high proportion of the labor force that is unemployed--from around 7 percent down to 4 or 5 percent depending on one's intellectual and political predilections--and a reduction of a comparable amount of working time by the presently employed, circa around 3 to 4 percent of the 91 million currently at work.

Without addressing this issue head on, Dr. Clark explores it from several different vantage points and the burden of his findings suggest the difficulties, one might use a stronger term such as impossibility, in a market economy of spreading the burden of unemployment by such a simplistic device as an across-the-board reduction in working time. The reasons that prevent such an adjustment include: differences in the skills of workers, their location, the market prospects of different firms and industries, capital and technological factors affecting employment and still other differentiators.

Dr. Clark has adopted a straightforward approach to illuminating the interplay between work schedules and work. His first chapter sets forth the major trends in hours of work and in the changing structure of the labor force that has led increasingly to the 2 worker family in which both spouses hold a job.

Chapter II focuses on how firms are likely to respond to changes in the demand for their products, both in periods of expansion and contraction, by altering their employment and hours scheduling. The reader is reminded that from the viewpoint of the individual firm with wages and fringe benefits accounting for up to three-quarters of total outlays, management is constantly searching for improvements that will provide it with the most productive work force at the lowest sustainable cost, taking into consideration the entire range of factors including hiring, training, wage rates, fringe benefits, overtime, and still other costs.

The next two chapters represent the core of the monograph where Dr. Clark walks the reader through the principal public policies that impact the employment decisions of firms, including the tradeoffs between overtime for a smaller work force and a regular schedule for a larger number of employees. The thrust of Dr. Clark's analysis is that the accretion of public policies since the New Deal involving the Fair Labor Standards Act, Unemployment Compensation, Social Security and still other legislative enactments have had a cumulative effect in making fluctuations in working time the key balancing wheel in the labor market. Only after such fluctuations reach their outer limits via overtime does new hiring

come into play. On the down side there are impediments in the United States though not in Western Europe to using reduced working time as a balancing wheel in favor of the maintenance of employment.

The following two chapters, V and VI make it clear that there is nothing easy about "Transforming Reduced Hours Into Jobs," the more so when one focuses on the fact that unemployment is so heavily concentrated among a subsection of the total labor force--the hard-to-employ--who have little education, skill, work experience and who in addition have racial, age, or sex characteristics that employers prefer to shun.

The concluding chapter, VII, "A Policy Agenda" points up the approaches that Dr. Clark recommends to the Commission and the American people to probe further if they see merit, as he does, in shifting the existing incentive structure to a neutral position from its present preference for overtime over more jobs. Among the proposals which he advances are:

- Restructuring the unemployment insurance system to provide compensation for involuntary reductions in work schedules.
- Removal of employer payroll taxes for new hiring during periods of high unemployment.
- Assessment of the taxable nature of fringe benefits, including, in particular, care in the financing of national health insurance if it should be passed.
- Research into the complex interactions among a labor force with changing sex and marital characteristics, more part-time workers, and new steeper payroll taxes.

The Commission is indebted to Dr. Clark for having been willing to undertake this assignment and for carrying it out competently and expeditiously. In making copies of his report broadly available to decisionmakers in the public and private sectors and to the American people, the Commission indicates its belief that the issues which

reviews warrant close attention. The Commission will undoubtedly deal with these and related issues as it moves ahead to develop policy recommendations aimed at the improved articulation of macro-economic and manpower policies and the more equitable sharing of job opportunities among different groups of claimants. When it does so it will be helped by having Dr. Clark's monograph to help guide its work.

ELI GINZBERG
Chairman

INTRODUCTION*

The American economy has been mired in a state of less than full employment for most of this decade. Unemployment rates have remained considerably above the postwar average and are projected to continue above 5 percent until the early 1980s. Most of the burden of this and previous recessions has been borne by workers with certain labor market disadvantages. Workers who have retained their jobs are frequently unaware of the tragic impact that joblessness can have on the unemployed.

The National Commission for Manpower Policy invited this report to review the factors that influence firms when they decide on the optimal allocation of their labor force. The Commission specifically wanted to know what costs were involved in longer hours in contrast to those involved in increased employment. It also wanted to know how desirable it would be for the federal government to try to alter the relative cost of these two manpower options. Therefore, this report will examine the feasibility of reducing the hours of work for those currently employed in order to increase the employment opportunities for the jobless.

Past economic reviews have frequently concluded that the nation would be better off if the most efficient individuals were permitted to work long hours even at the expense of unemployment for others.^{1/} The basic argument for this point of view is that national output is thus greater and that the unemployed can be cared for through social insurance systems. Therefore, on the basis of most welfare criteria, the government should not try to induce work sharing by programs such as overtime premiums.

This reasoning overlooks several factors that have become increasingly important in the labor market. Seniority, tenure, and career status are widely used as the determining factors in layoffs, recalls, and the availability of overtime. Consequently, only to the extent that productivity is correlated with job tenure will the most efficient workers be retained in the presence of manpower reductions.

* The author wishes to thank Ms. Kathy Anderson for her research assistance and Ms. Ann Cooke for her invaluable editorial services.

^{1/} See for example, Melvin Reder, "Hours of Work and the General Welfare," in Clyde Dankert, et al. (eds.), Hours of Work, Harper and Row, New York, 1965, pp. 179-200.

The depreciation of the job skills of unemployed workers should be included in the loss to society incurred as a result of reduced economic activity. In general, we would expect a greater loss when workers are fully unemployed than when they are working reduced hours. Therefore, in determining whether reduced hours or increased unemployment is the better of two bad choices, we must consider the loss that will result in the future because of the deterioration in the job skills of the unemployed.

Let us define efficiency as the least-cost means of production excluding governmentally mandated premiums or taxes. Then we must examine the costs imposed by government legislation before we can conclude that firms are currently responding to fluctuations in demand in the most efficient way. This report provides a detailed review of these cost factors and clearly shows that current legislation is not neutral in its influence on manpower decisions. The primary focus of this report is to discover how existing government policy has influenced firms to opt for a reduced work force instead of for shorter hours. In addition, the programs that influence the time allocation decisions of workers will be reviewed. With the exception of overtime premiums, legislation enacted during the last 50 years has changed the relative prices of the manpower options so as to bias labor market decisions in favor of reduced employment. The government should act to remove this unemployment bias. Government action may also be necessary to enable firms once again to choose between hours and workers on the basis of economic efficiency criteria.

The assessment that the most efficient workers should be allowed to work longer hours at the expense of the idleness of others also may have ignored the serious effects of unemployment that income transfers cannot restore. These effects may be especially significant when concentrated among disadvantaged blacks and urban youths. Any loss in national output associated with work sharing should be balanced against the social problems that are created by the unequal incidence of unemployment. Each of these factors should be given a significant role in determining what the appropriate social policy should be while the economy struggles to return to full employment.

Government action to encourage the sharing of the available hours of work cannot be viewed as a substitute for fiscal and monetary policy designed to return the economy to full employment at a normal work week. While this report analyzes alternative manpower options in an economy operating at less than full utilization of its human resources, we must recognize the primary goal of restoring a full employment economy. One danger of work sharing that reduces the measured unemployment rate is that policymakers will become less vigorous in their efforts to achieve the nation's employment goals. It is the objective of this study to provide a framework for a national debate on the optimal allocation of human resources during periods of high unemployment while not diverting attention from the need for policies aimed at continuing the economic recovery.

I. WORKLIFE CHANGES AND THE AMERICAN LABOR FORCE

A. Changing Composition of the Labor Force

The dramatic influx of married women into the labor force combined with the equally significant decline in the participation of older men has altered the sex and age composition of the civilian work force.^{2/} The labor force participation rate of married women has risen from 20 percent in 1947 to 45 percent in 1976. Married women represented only 11 percent of the 1947 labor force; in the following three decades, however, this proportion rose to 23 percent. During this period, women accounted for 60 percent of the growth in the labor force; and married women constituted 40 percent of the total increase. The life cycle evidence indicates that an increasing proportion of women in most cohorts is in the labor force as the cohort ages.

At the same time, older men began to withdraw from the labor force. The labor force participation rate for males over age 65 declined from 47 percent in 1947 to 20 percent in 1976, while the drop in market activity for men 55 to 64 years old was from 90 to 75 percent. More recently, the entrance of the "baby boom" cohort into the working years has stimulated a rapid rise in the number of youths in the labor force aged 16 to 24 from 14 million in 1965 to over 21 million in 1976. Youths represented 24 percent of the total labor force in 1976, up five percentage points since 1965.

These shifting patterns of market activity and the structure of the labor force have significant implications for the functioning of the economy. The demand for shorter hours and part-time work is influenced by the sex-age composition of the work force.

For example, women average 34 hours of work per week and male students only 22 hours. These two groups have comprised an increasing proportion of the labor force, thus giving the appearance that the average workweek has

^{2/} The changing composition of the labor force is described in detail in Juanita Kreps and Robert Clark, Sex, Age and Work: The Changing Composition of the Labor Force (Baltimore: Johns Hopkins University Press, 1975); Glen Cain, Married Women in the Labor Force (Chicago: University of Chicago Press, 1966); and Valerie Oppenheimer, The Female Labor Force in the United States (Berkeley: Institute of International Studies, University of California, 1969).

been declining. Demographic trends may also affect the unemployment rate and the supply of skilled workers. The subsequent sections of this chapter will examine the impact of these changes on economic aggregates.

B. Unemployment Patterns

The variation in the unemployment rates of demographic groups is striking. Table 1 shows that in 1976 the unemployment rate for black teenagers was almost twice that for white teenagers, while the female rate was over 1.5 percentage points higher than the male unemployment rate. Relative to white males, these workers have higher turnover rates and are frequently out of the labor force. They tend to lack job-specific skills and the protection of seniority. Blacks and women may continue to suffer from labor market discrimination or may simply lack the characteristics of job stability and educational attainment that employers seek.

Youths are in a transitional stage of development and do not have the job skills that would make them attractive to most employers. By and large, 14- and 15-year olds are enrolled in school and are not in the labor market; even during the summer months, fewer than one-third of them are searching for employment. However, 40 percent of youths 16 years of age are in the labor force during the school year and a greater proportion during the summer months. The end of adolescence is associated with youths' leaving high school and going on to either college or full-time employment. By the early twenties, the transition to adult worklife is usually completed.^{3/} The volatile nature of the commitment of youths to the labor force, combined with their lack of skills, explains in part their high rates of unemployment.

These hard-to-employ workers are of growing concern to policymakers. The reasons for the unequal distribution of forced idleness include lack of job-specific skills, marginal formal education, and unstable attachment to the labor force. Unemployment woes for teenagers, whose rates have averaged nearly five times that of workers over 25, occurs in part because of inadequate manpower information and the lack of bridges from school to work.^{4/}

3/ Sar Levitan and Robert Taggart, "Jobs for Youths," Challenge, (May/June 1977), pp. 66-67.

4/ National Commission for Manpower Policy, From School to Work: Improving the Transition (Washington, D.C.: U.S. Government Printing Office, 1976).

Table 1. COMPARISON OF SELECTED UNEMPLOYMENT RATES,
1967-'76^{A/}

YEAR	U.S. RATE	ADULT MALE 20+	ADULT FEMALE 20+	YOUTH 16-24	WHITE TEENAGER 16-19	BLACK TEENAGER 16-19
1967	3.8	2.3	4.2	8.7	11.0	26.5
1968	3.6	2.2	3.8	8.7	11.0	25.0
1969	3.5	2.1	3.7	8.4	10.7	24.0
1970	4.9	3.5	4.8	11.0	13.5	29.1
1971	5.9	4.4	5.7	12.7	15.1	31.7
1972	5.6	4.0	5.4	12.1	14.2	33.5
1973	4.9	3.2	4.8	10.5	12.6	30.2
1974	5.6	3.8	5.5	11.8	14.0	32.9
1975	8.5	6.7	8.0	16.1	17.9	36.9
1976	7.6	5.7	7.3	14.6	16.8	36.8

^{A/} First seven months.

SOURCE: Ben Burdetsky, "Troubled Transition: From School to Work," Worklife, November 1976.

While it is not the purpose of this report to review the disadvantages that some workers encounter in the labor market,^{5/} the characteristics of these hard-to-employ individuals are described to set the stage for a consideration of employment expansion through reduced hours. Unless these workers have the appropriate skills, employment expansion through reduced hours of the existing workers may be useless.

The aggregate unemployment rate is determined by the composition of the labor force as well as by the unemployment rates for each demographic group. Wachter, in his recent study for the National Commission for Manpower Policy (NCMP),^{6/} shows the importance of demographic trends on the noninflationary rate of unemployment. The increased number of youths and females in the labor market has pushed this rate upward in the last 20 years to its 1975 level of 5.5 percent. Holding participation rates constant and thus projecting future unemployment rates solely on changes in relative population structure, he finds that his measure of unemployment peaks in 1975-'76 and then declines to 4.5 percent by 1985.

C. Hours of Work: Cyclical Movements

This study will detail programs that would induce greater cyclical sensitivity to hours of work while lowering the employment response to reductions in demand. Employers currently react to declines in the demand for their products by reducing work schedules. Overtime is reduced, the average workweek declines, and involuntary part-time is increased.

In May 1976, over 16 million workers were employed for 41 or more hours per week. This was an increase of 1.2 million over the recession low in 1975 but remained well

5/ See Edward Kalachek, "Determinants of Teenage Employment," Journal of Human Resources (Winter 1969), pp. 3-21; Janice Neipert Hedges, "Youth Unemployment in the 1974-'75 Recession," Monthly Labor Review (January 1976).

6/ Michael Wachter, "The Demographic Impact on Unemployment: Past Experience and the Outlook for the Future," in Demographic Trends and Full Employment, Special Report No. 12, National Commission for Manpower Policy (Washington, D.C., December 1976).

below the peak of 18 million who worked long hours in 1973. These fluctuations in overtime hours follow the historical pattern of declining hours during recessionary periods. Many of these individuals worked hours far beyond the normal week. Approximately 5.4 million were employed for 49 to 59 hours, while over 3.3 million worked 60 hours or more in 1976.^{7/}

Multiple jobholding, or moonlighting (mostly involving only two part-time jobs), is one form that long hours can take. The incidence of multiple employment for men was 5.8 percent in 1976, down 0.8 of a percentage point from its 1973 level. For males, this index of employment has shown no secular trend over the last decade and a half, varying from 7.4 percent in 1963 to 5.8 in 1976. The proportion of employed women holding two or more jobs has risen steadily from 2.0 percent in 1962 to 2.6 percent in 1976.^{8/}

In a recession, shorter hours are also introduced in the form of involuntary part-time work - less than 35 hours per week. In 1976, 3.5 million workers were on part-time schedules due to economic reasons,^{9/} down slightly from the recession high of 3.7 million in 1975. This figure was, however, substantially above the levels for involuntary part-time work in the 1960s and early 1970s. The incidence of involuntary part-time work rises before the unemployment rate as the economy enters a recession. Statistical evidence indicates a strong positive relationship between the level of economic activity and involuntary part-time work on the

7/ U.S. Bureau of Labor Statistics, Long Hours and Premium Pay (May 1976); Special Labor Force Report No. 196 (1977); Diane N. Westcott, "Trends in Overtime Hours and Pay, 1969-74," Monthly Labor Review, (February 1975), pp. 45-52.

8/ Kopp Michelotti, "Multiple Jobholding Rate Remained Unchanged in 1976," Monthly Labor Review (June 1977) pp. 44-48.

9/ Includes persons who worked less than 35 hours during the survey week because of slack work, job changing during the week, material shortages, inability to find full-time work, etc. Data are from the Employment and Training Report of the President, U.S. Department of Labor (1977) p. 183.

down side of the business cycle. The unskilled, the poorly educated, the young, and blacks have disproportionately high rates of part-time employment by economic factors.^{10/}

The available evidence indicates that hours are responsive to economic pressures; overtime rates fall, average weekly hours decline, and more workers are forced onto part-time schedules. Despite these cyclical adjustments unemployment rises, while many workers continue to be employed for long hours. The result is that a small proportion of the labor force bears the burden of the recession, while most workers are unaffected. Is this the optimal adjustment process to insufficient aggregate demand? This report was commissioned by the National Commission for Manpower Policy to examine the desirability of society's influencing manpower decisions by firms in response to cyclical changes. In the following chapters, the role of government policy aimed toward minimizing unemployment for a given level of aggregate manpower requirements will be explored.

D. Hours of Work: Long-Term Decline

The hours spent at market work have declined with increases in productivity as workers have chosen to allocate a portion of their income gains to leisure activities. Twelve-hour days were the standard work schedule in the mid-nineteenth-century. The workweek declined over the next century, and in the immediate postwar period the average length of the workweek in the private nonagricultural sector was approximately 40 hours. By 1976, the average weekly hours for this sector was 36.2 hours.

The increase in nonmarket time has not been a smooth and continuous process. Much of the reallocation of time occurred during the first two decades of the twentieth century, when the average workweek declined from 60 to 50 hours and during the depression of the thirties. The long-term decline has been the product of a desire for increased leisure, the changing composition of the labor force, government policies, and cyclical reductions in hours that are not fully reversed.

^{10/} Robert Bednarzik, "Involuntary Part-Time Work: A Cyclical Analysis," Monthly Labor Review (September 1975), pp. 12-18.

The decline in the number of weekly hours worked appears to be slowing, and John Owen argues that adult workers have achieved no net gain in leisure time in the last 30 years.^{11/} Hours of work for nonstudent men employed in nonagricultural industries average 42.7 per week in 1947 and had increased slightly to 43.5 in 1969 before declining in the subsequent recession years to 42.5 in 1975. When these figures are adjusted for growth in vacations and holidays, the same pattern is observed. Noting the increased number of working women and youths, Owen concludes that "a decomposition of the measured statistical decline in average working hours does not indicate that any significant reduction in paid work actually took place in the total work force."^{12/}

The changing composition of the labor force has generated an increased demand for part-time employment that is partly responsible for the apparent decline in the average workweek. Table 2 indicates that the incidence of part-time employment is greater among women than men at all ages. In addition, the part-time rate for the young and the old is greater than for those in the prime working years, ages 25-54.

A series of studies has indicated that the proportion of productivity gains allocated to additional nonmarket activities has declined. Clark Kerr concluded that prior to 1920, leisure gains absorbed half of the increased in output per man-hour; while between 1920 and 1950 only about 40 percent went toward reduced hours of work.^{13/} The leisure component of productivity advances was estimated by Peter Henle to have declined to 11 percent from 1940 to 1960.^{14/} A continuation of this pattern is observed in the estimates of Geoffrey Moore and Janice

^{11/} John D. Owen, "Workweeks and Leisure: An Analysis of Trends, 1948-75," Monthly Labor Review (August 1976), pp. 3-8.

^{12/} Ibid., p. 4.

^{13/} Clark Kerr, "Discussion," American Economic Review (May 1956), p. 219.

^{14/} Peter Henle, "Recent Growth of Paid Leisure for U.S. Workers," Monthly Labor Review (March 1962), p. 256.

Table 2. WORK EXPERIENCE OF THE POPULATION, 1975

EMPLOYMENT CATEGORY	16 AND OVER	16-24	25-54	55-64	65 AND OVER
<u>Both Sexes</u>					
Full-time	78.9	63.0	86.9	84.5	51.7
Part-time	21.1	37.0	14.1	15.5	48.3
<u>Males</u>					
Full-time	87.6	66.9	96.3	93.3	58.8
Part-time	12.4	33.1	3.7	6.7	41.2
<u>Females</u>					
Full-time	67.0	58.5	72.0	67.8	39.3
Part-time	33.0	41.5	28.0	32.2	60.7

SOURCE: U.S. Department of Labor, "Work Experience of the Population in 1975," Bureau of Labor Statistics, Special Labor Force Report No. 192, Table B-1, p. 14.

Hedges that workers in the 1960s took only 8 percent real productivity growth in the form of reduced work time.^{15/}

Workers have increasingly taken nonwork time in the form of extra days away from the job rather than reductions in the workweek. Juanita Kreps and Joseph Spengler estimated that 90 percent of the reduction in the number of hours per year between 1890 and 1960 was attributed to fewer hours per week.^{16/} Henle concluded that the most significant development in the allocation of productivity gains between 1940 and 1960 was the increased proportion going to vacation and holiday time. He showed that 50 percent of the growth in annual leisure was due to six additional days of paid vacation and four extra paid holidays.^{17/} The preference for extra days off continued into the 1960s. Of the 50-hour increase in nonworking hours per year achieved during this decade, 20 hours were taken in the form of additional vacation and holidays.^{18/}

The continuing desire for additional days of nonwork is reflected in the incidence of paid vacations and their length. In 1940, only one out of every four organized workers was covered by a contract providing for a vacation allowance, and many of those agreements required lengthy eligibility standards. By 1972, over 90 percent of the 6.3 million workers in firms with agreements covering 1,000 or more workers were employed under contracts calling for paid vacations. Only 14 percent of the collectively negotiated agreements in 1952-53 provided eight or more paid holidays; by 1972, however, 81 percent of the contracts

15/ Geoffrey Moore and Janice Hedges, "Trends in Labor and Leisure," Monthly Labor Review (February 1971), p. 11.

16/ Juanita Kreps and Joseph Spengler, "The Leisure Component of Economic Growth," Technology and the American Economy, Appendix Volume II, National Commission on Technology, Automation, and Economic Progress (1966), pp. 355-65.

17/ Henle, "Recent Growth," p. 257.

18/ Moore and Hedges, "Trends in Labor," pp. 5-6.

required this level of holidays.^{19/} The increase in days away from the workplace raised the cost of paid leave in 1972 to 5.6 percent of total compensation for private nonfarm employees, with sick leave benefits comprising an additional 0.7 of a percentage point.^{20/} A 1975 survey by the Chamber of Commerce found that payments for vacation, holidays, and sick leave represented 10 percent of company payroll.^{21/}

Two of the best known collective bargaining initiatives increasing the paid leisure for members were negotiated by the United Auto Workers and the United Steelworkers. The UAW won 12 additional holidays over the duration of the 1976 contract. This increase brings the total days off per year for the average auto worker to 45. Union representatives argued that the increase in holidays might result in a 5 percent increase in employment in the automobile industry and that "there is a need in the union and the country to shorten work time to create more jobs and lower unemployment."^{22/} Management counters that the outcome of reduced workdays will be increased costs and that these higher costs will prevent significant employment gains.

In 1963 the steelworkers reached an agreement with the major producers for an extended vacation of 13 weeks every five years for the senior half of the work force. By reducing annual hours by 2 percent, the steelworkers had hoped to create approximately 10,000 new jobs. While about 40,000 workers per year take advantage of this extended leave, the impact on employment appears to have been marginal.^{23/}

^{19/} Rich Galleher, "Time Off: More Vacations and Holidays," American Federationist (January 1974), p. 6.

^{20/} U.S. Department of Labor, Employee Compensation in the Private Nonfarm Economy, 1972, BLS Bulletin No. 1873 (1975), p. 8.

^{21/} U.S. Chamber of Commerce, Employee Benefits 1975 (Washington, D.C., 1976).

^{22/} "The Issue That Drove Ford Workers Out," Business Week (September 27, 1976), p. 29.

^{23/} Sar Levitan and Richard Belous, Can Unemployment Be Fought with Shorter Hours? Center for Social Policy Studies (Washington, D.C., 1976), p. 39.

These changing patterns of the allocation of productivity gains are significant for this study. For example, Owen speculates that if the distribution of increased productivity had continued its trend from the first half of the century, the average manufacturing workweek would now be approaching 35 hours. Thus, the objective of reduced hours would have been achieved.^{24/} The shift toward more vacation time per worker raises the quasi-fixed costs of hiring and reduces the incentive of management to expand employment. Speculating on the future course of working time, Owen outlines three possible scenarios. He concludes that a gradual reduction in hours is the most likely and that a rapid drop in hours is somewhat more probable than a continuation of no reduction. If workers are going to desire a shorter work week in the future, a policy of reduced hours during the lingering recession may simply speed the process.

Under these circumstances, the well-being of most employees would be only temporarily reduced. Suppose, for example, workers desire to supply 40 hours of work per week in 1977 but that this will decline to 38 hours in 1980. Responding to governmental actions, employers reduce the hours of employment they offer to 38 per week in 1978 and maintain this as the standard workweek. While employees suffer annual reductions in their well-being until 1980, this decrement disappears as changing tastes for leisure overtake the decline in weekly hours.

E. Innovations in Work Scheduling

A variety of work-scheduling innovations and experiments has been receiving considerable publicity in recent years. Alternatives to the standard workweek have included flexitime, the four-day week, job sharing, and phased retirement.

Flexitime allows workers to vary their hours on the job while maintaining their standard workweek. Under this arrangement, the workday is divided into a core period during which all workers must be present and a period of flexible hours, usually at the beginning and ending of the day. Flexitime is now widely used in the European countries, with 40 percent of all Swiss wage earners and approximately 50 percent of white collar employees in

24/ Owen, "Workweeks," p. 5. He states that postwar demand for goods, increased fertility, and expansion of educational goals prevented the further decline of hours after World War II. He concludes that over the next 25 years, hours of work should tend gradually downward.

West Germany operating under some form of flexible scheduling.

In the United States, an estimated one million workers are employed with flexitime by ten major firms, along with 70,000 civil service employees.^{25/} Unless flexitime is combined with some form of hours reduction, its implementation would be expected to have no major influence on total employment. To the extent that absenteeism is reduced, the labor force needs of individual employers may be reduced.

The four-day workweek has been adopted by perhaps as many as 10,000 firms.^{26/} The Bureau of Labor Statistics estimates that approximately 750,000 wage and salary workers are on four-day schedules, representing 1 percent of all full-time nonfarm employees. Shifts to four-day weeks should also have only negligible employment effects if 40 hours per week remains the standard. Such an alteration in scheduling, however, might hasten further declines in weekly hours as workers strive to regain the eight-hour day.

Job sharing is a voluntary arrangement that enables two persons to divide the responsibility for what was previously one full-time position. Compensations, including fringe benefits, are prorated to each individual in accordance with time worked. These shared jobs become permanent part-time positions for employees who desire to work less than the standard workweek. Permanent job sharing corresponds to work sharing in the presence of high rates of unemployment and does hold the promise of increased employment opportunities.

Phased retirement is in practice in special case of job sharing. Firms that provide for phased retirement permit employees gradually to reduce their work effort as they approach retirement. This practice allows older workers to maintain their labor force ties and earnings while freeing the resources of the firm for new hirings and promotions. Problems may arise with respect to

25/ "Set Your Watch for Flexitime," Worklife (March 1977).

26/ Joan Lublin, "The Four-Day Week: Employee Lives Change as More Firms Adopt New Work Schedules," Wall Street Journal (February 16, 1977), p. 1. For a description of experience with four-day weeks, see Riva Poor, ed., 4-Days, 40 Hours (Cambridge, Massachusetts: Bursk and Poor Publishing, 1970).

determination of pension benefits that will limit the usefulness of phased retirement.

During the twentieth century, a significant reordering of life cycle labor supply has occurred. Individuals enter the labor force at later ages as the duration of full-time schooling has been extended. In addition, an increasing proportion of years in late life is spent in retirement. Early retirement is a spreading phenomenon, stimulated by the expansion of Social Security, private pensions, and mandatory retirement. These reductions in the number of years the average worker spends in the labor force constitute a substantial proportion of the total decline in hours spent at work over the lifetime of an individual.

F. Labor Supply in the Dual-Career Family

Perhaps the most important trend in labor market behavior in the American economy has been the increase in the proportion of married women in the labor force. Significant increases in market activity have occurred at all ages between 16 and 64. The rise in the participation by married women in the labor market has invalidated to a considerable degree the traditional family model of husband-wage earner and wife-homemaker. In March 1975, 41 percent of the husband-wife families had both the husband and wife in the labor force, while the husband was the sole labor force participant in only 34 percent of these families.^{27/}

The attachment of wives to the labor force is increasingly a permanent bond, and the commitment to career paths is growing. In 1974, 69 percent of wives with work experience were employed more than 35 hours per week, with 43 percent of all working wives employed full-time for 50 to 52 weeks. The contribution of working wives to family income has been increasing with the rise in female market work effort. In 1950, the median family income (1974 dollars) for a family with the wife in the paid labor force was \$8,200, compared to \$6,791 when the wife was not in the paid labor force. The 1974 median income of a family with a working wife was \$16,928, in contrast to \$12,082 for families in which the wife was not in the paid labor force. The relative size of the wife's contribution to the family income was dependent on the extent of the wife's market work - greater market participation

27/ Howard Hayghe, "Families and the Rise of Working Wives - An Overview," Monthly Labor Review (May 1976), p. 16.

increased the proportion of family income from the wife's earnings (see Table 3).

Table 3. WIFE'S CONTRIBUTION TO FAMILY INCOME

WIFE WORKED	MEDIAN FAMILY INCOME 1974	MEDIAN PERCENT OF FAMILY INCOME CONTRIBUTED BY WIFE
<u>Full-time</u>		
50 to 52 weeks	\$17,500	38
27 to 49 weeks	14,400	29
<u>Part-time or</u>		
1 to 26 weeks		
full-time	13,500	12

The increase in the market activity of wives influences labor market aggregates such as the unemployment rate and average weekly hours because of the higher incidence of unemployment among females and a greater desire for part-time work. The allocation of the time of family members should be viewed as a simultaneous decisionmaking process. Thus, the entrance of the wife into the labor market may affect the labor supply of the husband. Thomas Kniesner argues that higher educational attainment and increased wage rates have brought married women into the labor market. The increased labor force participation of wives may have been responsible for ending the long-run decline in average weekly hours of males noted earlier. Kniesner argues that the nonmarket times of husbands and wives are complements (not substitutes) in home production. Therefore, increased hours of work by the wife will increase the market effort of her husband.^{28/}

^{28/} Thomas Kniesner, "The Full-Time Workweek in the United States, 1900-1970," Industrial and Labor Relations Review (October 1976), pp. 3-15.

G. Summary

This chapter has attempted to set the stage for the analysis that follows. It is important to the subsequent discussion that the reader be reminded that the labor force is not composed of a homogeneous group of individuals with equivalent skills. Blacks, women, and youths all have higher rates of unemployment than do white males. The causal factors are currently the subject of debate; it is apparent, however, that unless existing policy is altered, these hard-to-employ individuals will have a disproportionate share of the adjustment to the recession.

Because workers are not identical, changes in the composition of the labor force will influence observed economic aggregates. Thus, movements in variables such as the average workweek may seem to represent long-term trends but may be due instead to the fact that an increasing share of the labor force is comprised of groups that traditionally demand shorter hours, namely, women and youths.

II. DEMAND FLUCTUATIONS AND MANPOWER DECISIONS

A. Introduction

A profit-maximizing firm will utilize various inputs in order to minimize its costs while producing the desired output. If all labor is homogeneous and the cost of employment is only the hourly wage rate, management would be indifferent between additional hours by existing workers and employment expansion. The extent of job-specific skills and training potential differentiates individuals in the eyes of employers. A portion of labor costs is related to the number of workers hired and not to how extensively each is used. These quasi-fixed forms of labor compensation along with certain public and private institutional constraints may have a significant influence on the manpower decisions of firms by increasing the cost of additional workers relative to longer hours.

In this chapter, the full costs of employment changes are examined and compared to the costs of additional hours. A model of cost minimization is presented and the qualitative effects of alternative policy changes are reviewed. Frequently, the discussion of hours versus jobs is discussed only in terms of expanding manpower needs; however, we will also outline the appropriate cost comparison when the alternatives are reduced hours or layoffs.

B. Altering the Size of the Work Force

A company generally incurs a variety of hiring costs when it expands employment by hiring new workers. Prospective candidates must be located, interviewed, and tested. References are checked and frequently medical examinations are given before the new employee is added to the payroll.

Fringe benefits represent another form of quasi-fixed compensation, which now average 35 percent of total labor costs and which have been increasing twice as fast as wages. Life and health insurance, along with disability coverage, that are provided for full-time employees become a fixed cost of hiring. Vacation and pension credits may be accrued by days on the job rather than by hours per day. Thus, the existence of benefits associated with

employment raises the relative price of new hirings compared to increased utilization of a firm's current work force.^{29/}

Governmentally mandated social insurance programs are similar to fringe benefits as they relate to the total compensation package of the firm. The cost of these programs is given in detail in the next chapter; however, the use of an earnings ceiling is important to the present discussion. If the employer tax is removed beyond some level of earnings, the cost to the firm of using workers with high earnings for more hours is reduced when compared with that of employing additional workers for whom the tax would be required. Market or aggregate effects on the supply and demand for labor depend on the final incidence of the tax and may further alter the relative prices of the manpower options.

The training and orientation of new workers is also a necessary expenditure of employment expansion. In our mechanized society, firms are required to make substantial investments in the training of their workers. The job-specific skills obtained in training programs and by learning on the job have increased the productivity of senior workers. Therefore, new employees will be less productive and will necessitate capital outlays for training.^{30/}

29/ The influence of fringe benefits on employment expansion is described in Joseph W. Garbarino, "Fringe Benefits and Overtime as Barriers to Expanding Employment," Industrial and Labor Relations Review (April 1964), pp. 426-42; Robert M. MacDonald, "The Fringe Barrier Hypothesis and Overtime Behavior," Industrial and Labor Relations Review (July 1966), pp. 562-69; Ronald G. Ehrenberg, "The Impact of the Overtime Premium on Employment and Hours in U.S. Industry," Western Economic Journal (June 1971), pp. 199-207; and Clyde Kankert et al., Hours of Work (New York: Harper and Row, 1965).

30/ For a theoretical discussion of on-the-job training, see Gary Becker, Human Capital (New York: National Bureau of Economic Research, 1964), especially pp. 7-36.

A final set of costs might arise if the employer has misjudged the intensity of demand increase and is forced to terminate newly hired workers. These costs would include severance pay, removal from the payroll and from benefit plans, and any increase in unemployment compensation rate. High rates of turnover caused by layoffs and recalls may result in bad public relations for large employers in their local communities. Of course, hourly wages must be paid to new employees during the employment period.

The total cost of hiring and training a new employee can be quite significant. Stanley Babson reports that a national manufacturer in the textile field found that it cost the company \$2,200 every time it had to replace an experienced machine operator. The estimated cost of recruiting and training a cable splicer for one telephone company is \$14,000, while a large manufacturing firm with an extensive two-year training program had total hiring and training costs of over \$35,000.^{31/}

In the recovery phase of a business cycle, all of these costs may not be relevant to management's decision on the method of manpower expansion. If a firm has previously laid off workers, it can now choose between recalling these former employees and expanding hours of work. In this case, hiring and search costs would probably be negligible because of the existence of workers awaiting recall. Depending on the length of previous job tenure, the need for additional training would be reduced. The primary difference between extending hours and recalling former employees is the cost of fringe benefits and possibly increased coverage of payroll taxes. Overtime premiums should act as a partial offset to these hiring-related costs.

In times of declining demand, the firm must decide between reduced hours and reduced employment. The cost to the firm of layoffs appears in the form of higher unemployment compensation taxes. Offsetting

31/ Stanley Babson, *Fringe Benefits* (New York: John Wiley and Sons, 1974), pp. 48-50.

this cost is the decline in fringe benefit costs relative to the savings achieved by reducing hours. The savings from reduced fringe benefits may be significantly less when we compare them with layoffs and recalls rather than new hirings. For example, many negotiated agreements require that time on layoff count as service in determining eligibility for vacation pay. Depending on the specifications of the individual contract, time on layoff may not reduce a worker's annual credits toward pension benefits. In addition, firms may continue to provide hospital and health insurance for the remainder of the month in which the layoff occurs, and often do so for several additional months.^{32/}

Perhaps the most significant cost to the firm of layoffs arises when workers find new employment and do not return to the firm at a later date. Thus, the firm loses its training investment in these workers. This circumstance leads us to predict that layoff rates will be lower for workers who have received substantial job-specific training.^{33/} The extent of seniority is an additional factor to consider. In some firms, layoffs may set off a series of "bumpings," with the result that more workers are removed from their normal jobs and personnel expenditures increase. The effect on productivity is determined, in part, by the size of the unit governing seniority rights. The vitality and adaptability of firms may also suffer if a considerable proportion of the younger work force is laid off while senior workers are retained.

C. Schedule Alteration

Shifts in the length of the workweek alter the firm's labor costs through changes in its variable costs of production. The greater the proportion of labor compensation that varies with the number of hours worked, the greater the costs of additional hours. Thus, increased fringe benefits and ceilings on payroll taxes lower the relative cost of lengthening the workweek. In addition, if workers are paid a salary for each month's work, then longer hours per individual would not increase labor costs.

^{32/} Peter Henle, "Work-Sharing as an Alternative to Layoffs," Congressional Research Service (July 1976).

^{33/} Becker, Human Capital; and Walter Oi, "Labor as a Quasi-Fixed Factor," Journal of Political Economy (December 1962), pp. 538-556.

Several institutional barriers may limit the use of flexible hours in response to demand fluctuations. Overtime premiums - whether governmentally imposed or privately negotiated - raise the cost of longer hours. Collective bargaining agreements may set a maximum number of overtime hours that a worker can be compelled to accept. Physiological or emotional limits such as worker fatigue and morale may also prevent firms from resorting to excessively long hours to meet their manpower requirements.

When manpower needs are declining, management is faced with the need to reduce hours or the number of workers employed, and overtime premiums are usually not encountered. Union restrictions may, however, prevent hours or earnings from falling below a certain level. Additionally, the employer runs the risk of increased quits if average hours are reduced relative to those of other firms. Absences may increase since the cost of being away from the job has been reduced. These adjustment costs may inhibit large reductions in the normal workweek.

D. Model of Firm Behavior

The manpower decision that the profit-maximizing firm faces is to determine the combination of men and hours per man that minimizes labor compensation for the optimal output. For a firm to make the appropriate manpower decisions involving hiring and training, a multiperiod time horizon is required that can incorporate cyclical fluctuations. A firm's expectations of future market events will govern its investment decisions concerning physical and human capital.

If we use the costs described in the preceding sections, and if we assume that labor markets are competitive, we can obtain the implications of the minimization process. First, increases in fringe benefits not related to hourly compensation imply that overtime will be substituted for additional hiring, since these are costs-per-worker and not cost-per-man-hour. Second, changes in the costs of hiring and training have the same impact as a shift in the quasi-fixed costs of fringe benefits. Rises in payroll taxes with earnings ceilings also stimulate the firm to extend hours at the expense of new jobs.

An increase in the hourly wage or the overtime premium will raise the attractiveness of new employees relative to overtime, as will a decrease in the length of the straight-time workweek. The costs of altering manpower requirements are not symmetrical and depend in part on whether or not employees are working at the limit of the straight time.

The duration of the change in demand is of critical importance when viewed in a multiperiod framework. Appendix A presents the manpower decision as a choice between two courses of action, with the firm prepared to select the least-cost alternative. In this manner the length of an increase in demand that equalizes the costs of the two options can be derived. If the additional hours of work required by the firm are below this figure, management will work its existing workers longer hours. For increases in demand of greater duration, the work force will be expanded.

E. Shifts in Industrial Composition

In the aggregate, demand by firms for employees who work fewer hours per week is influenced by the industrial composition of the economy. The variation between industries in the level of part-time employment and the related average weekly hours is striking. Table 4 indicates that the rate of part-time employment is only 3.9 percent in mining but over 33 percent of the total labor force in the wholesale and retail trade sector. Average weekly hours follow the same pattern, ranging from 42.3 hours per week in mining to 33.8 for both the service and trade sectors.

The shift in the industrial composition of the economy has contributed to the decline in weekly hours and the increased incidence of part-time jobs. Since 1950, manufacturing employment has declined from 33 percent of total employment to 24 percent in 1975, while the mining sector contracted from 2 percent to less than 1 percent. The decline of these relatively long-hour industries has been paralleled by the increase in the service sector, which is characterized by a high rate of part-time work, of 12 to 18 percent of the total. Projections indicate that these trends will continue until 1990.^{34/}

^{34/} ICF, "An Analysis of Labor Force Characteristics from 1950 to 1995," Mimeograph (April 1977), Appendix E.

Table 4. INCIDENCE OF PART-TIME EMPLOYMENT AND AVERAGE WEEKLY HOURS FOR PERSONS WITH WORK EXPERIENCE IN 1975 BY INDUSTRY

INDUSTRY	PROPORTION OF WORKERS PART-TIME	AVERAGE WEEKLY HOURS
Manufacturing	6.0	39.4
Mining	3.9	42.3
Construction	9.8	36.6
Transportation and Public Utilities	9.6	39.6
Service	28.0	33.8
Wholesale/Retail Trade	33.8	33.8

SOURCE: U.S. Department of Labor, "Work Experience of the Population in 1975," Bureau of Labor Statistics, Special Labor Force Report No. 192, 1976, p. 16; and Employment and Training Report of the President, 1977, p. 22.

III. EXISTING PUBLIC POLICY INFLUENCING EMPLOYMENT DECISIONS BY FIRMS

A. Payroll Taxes

Any tax levied against the payroll of a firm that cannot be fully passed along to workers in the form of lower wages can be expected to reduce the manpower demands of a firm. If such taxes cover all wages paid by the firm, then the relative prices of altering employment and modifying hours per worker would be unaffected. However, when earnings ceilings are incorporated into the tax structure, wages for longer hours may not be subject to tax payment. Thus, employers are encouraged to substitute variability of employment for flexibility in hours.

In 1977, the employer portion of the Old Age, Survivors, Disability, Hospital Insurance (OASDHI) tax is 5.85 percent of the first \$16,500 earned by each worker. This figure includes 4.95 percent for old age, survivors and disability portions of the program combined with 0.9 percent for hospital insurance. The employee has an equal amount deducted from his paycheck until he exceeds the earnings ceiling. The final incidence of this is a point of controversy in economic literature, with most studies indicating that the worker bears the full burden of the employee portion and much of the employer part of the tax.

Over the past three decades there has been a dramatic increase in the tax rate and the earnings ceiling. In 1950, the tax rate required to finance the Social Security system was 1 percent of the first \$3,000 of earnings. Thus, in the past 30 years, both the tax rate and the ceiling have risen by over 500 percent. The rise in the ceiling has paralleled the increase in average earnings and under existing legislation will continue to do so. Current legislation also mandates a future increase in the tax rate of 1 percent early in the next century; however, demographic pressures and rising benefits may necessitate considerably greater increases in revenues.^{35/}

^{35/} The 1977 Annual Reports of The Board of Trustees of the Social Security Trust Funds provide a description of the current and future status of these programs.

High tax rates that change the relative price of manpower options will alter the optimal size of the labor force of a firm. Table 5 illustrates the cost impact of the OASDHI tax and the ceiling on earnings. A company would be required to pay over \$200 more in taxes if it used two part-time employees earning \$10,000 each than if it employed a single full-time employee earning \$20,000. The reason for this differential is the earnings ceiling. If the tax applied to all wages, no savings from hours expansion could be realized. This is shown by the equivalent tax liabilities when the combined earnings are less than \$16,500 as illustrated by the three lower earnings records in Table 5.

Unemployment compensation is the other major social insurance program financed through a tax on the payroll of companies. While federal legislation provided the stimulus and framework for the system, the states determine unemployment compensation regulations. The federal tax rate of 3.2 percent of the first \$4,200 paid to a worker was established by the Federal Unemployment Tax Act. A state tax of up to 2.7 percent can be used to offset federal liabilities; however, the tax ceiling and the rate vary widely between states.^{36/}

The increased costs for unemployment insurance if part-time workers are used, are also depicted in Table 5. The relatively low tax ceiling results in a doubling of tax payments any time the combined wages exceed \$8,400. The experience-rating provisions of these laws are intended to counteract the tendency of firms to reduce employment during business declines. Experience rating rewards firms that exhibit low rates of layoffs with lower tax rates. Thus, management must include higher future tax rates in the costs of terminating employees. Unfortunately, a rating schedule may also make firms more reluctant to expand employment during recovery.

Payroll taxes whose final incidence is borne by the employer will, in general, reduce a firm's total demand for labor; however, unless a tax ceiling is adopted, the relative price of hours and employment remains unaffected. The example in Table 5 clearly

^{36/} U.S. Department of Labor, Comparison of State Unemployment Insurance Laws (Washington, D.C.: U.S. Government Printing Office, January 1975).

Table 5. PAYROLL TAX PAYMENTS BY EMPLOYER

TOTAL WAGES	\$5,000	\$10,000	\$15,000	\$20,000
<u>Tax payments for OASDHIA/ by combined salary</u>				
Two half-time workers	\$292.50	\$ 585.00	\$ 877.50	\$1,170.00
One full-time employee	292.50	585.00	877.50	965.25
Difference	0	0	0	204.75
<u>Tax payments for unemployment compensation^{B/}</u>				
Two half-time workers	160.00	268.80	268.80	268.80
One full-time employee	134.40	134.40	134.40	134.40
Difference	25.60	134.40	134.40	134.40
<u>Combined payroll tax payments</u>				
Two half-time workers	452.50	853.80	1,146.30	1,438.80
One full-time employee	426.90	719.40	1,011.90	1,099.65
Difference	25.60	134.40	134.40	339.15

A/ Tax payment based on a tax rate of 5.85 percent on first \$16,500 of earnings per employee.

B/ Tax payment based on a tax rate of 3.2 percent on first \$4,200 of earnings per employee.

shows how the two manpower options may be distorted with a payroll tax. The use of two part-time workers rather than one full-time employee increases the tax liability by approximately \$340, or 30 percent, at the \$20,000 earnings level but only \$25, or 5 percent, when combined earnings are \$5,000.

The ceiling on taxable earnings also may influence the employment opportunities of the low-wage, disadvantaged worker relative to skilled employees. In the same manner that longer hours become less expensive when compared with new hirings, the relative price of using craftsmen with earnings above the ceiling is lowered compared to the time of the unskilled whose wages are subject to the payroll tax. Therefore, to the extent that the skilled can be substituted for semiskilled or unskilled employees, the employment of disadvantaged workers is reduced.

B. Fringe Benefit Policies

Labor compensation has been undergoing a dramatic change during the past century. In the 1800s, workers were frequently required to redeem partial compensation at the company store or to live in company-owned housing. This process allowed management to require the wages of its workers to be spent in a manner that also benefited the firm. As these practices faded from the American scene, compensation began to be paid almost completely in the form of direct wages.

Since World War II, there has been a rapid expansion of the proportion of labor compensation that is composed of fringe benefits. The increase in paid vacation and holidays has already been discussed; however, workers today are more likely to receive paid life and health insurance, disability coverage, pension credits, sick leave, professional leave, dental insurance, and a variety of other in-kind payments.

The method that is used to determine the level of benefits that a worker receives is important for this study. If benefits are directly and proportionately related to earnings, then the existence of fringe benefits will not influence the hours-employment decision by management. However, benefits that are provided to all employees without regard to the number of hours that they work become a quasi-fixed cost of production. These benefits will make the firm

more likely to utilize longer hours to meet increasing manpower requirements.

Federal tax policy significantly encourages firms to provide fringe benefits and employees to accept them. At present, many fringe benefits are not subject to the personal income tax. Thus, a dollar's worth of fringe benefit costs to the firm may provide more value to an employee than a dollar in direct wages.^{37/} For example, a worker in the 25 percent marginal tax bracket would need \$1.33 of pretax earnings to be able to purchase nontaxable fringe benefits that the company can provide for one dollar. Pension contributions are taxed not as current income but only when received as benefits during retirement. In addition, the earnings of pension funds are not taxed. As a historical note, the federal government also encouraged the spread of fringe benefits when direct wages were frozen during World War II but fringes were not.

C. Overtime Legislation

In the thirties, two pieces of legislation were enacted to encourage employers to substitute new hirings for longer hours. The Fair Labor Standards Act of 1938 required that all covered employers pay an overtime premium of 150 percent of normal pay for all hours over 40 in a work week, while the Walsh-Healy Public Contract Act limited the hours of work to eight in one day unless overtime was paid, for all firms with government contracts in excess of \$10,000.

These laws are still the primary government tool for biasing the manpower decision of employers toward increased employment. Appendix A illustrates the effect of overtime premiums on the manpower decision. For firms responding to increases in demand, the increased expenditures necessitated by overtime laws should induce management to opt more frequently for new hiring. The longer the expected duration of the demand change, the more binding the overtime restriction becomes.

^{37/} Bevars Mabry, "The Economics of Fringe Benefits," Industrial Relations (February 1973).

Joseph Garbarino has shown that despite the significant increases in the quasi-fixed costs of hiring, the 50 percent overtime premium is most costly than the additional costs of fringes and hiring.^{38/} Despite this finding, high rates of overtime continue to coexist with high rates of unemployment. Ronald Ehrenberg attributes this to the unavoidable short-term nature of much overtime.^{39/} Future policy alternatives could include reducing the number of hours of the normal workweek or increasing the overtime premium to double or triple time.

D. Minimum Wages

The Fair Labor Standards Act also introduced minimum wage legislation into the American economy. In the intervening years, coverage under the act has been expanded to include approximately 90 percent of private nonsupervisory workers. The level of the mandated minimum has been raised periodically and early in 1977 was \$2.30 per hour for most jobs.

While the enforcement of a minimum wage should not alter the relative price of the manpower options we have been discussing, substantial economic literature suggests that a governmentally imposed minimum wage rate tends to reduce the employment opportunities, especially for youths.^{40/} Organized labor adamantly rejects these findings, and their position is supported by a series of reports by the

^{38/} Garbarino, "Fringe Benefits."

^{39/} Ehrenberg, "Impact of Overtime."

^{40/} These studies include Douglas Adie, "Teen-Age Unemployment and Real Federal Minimum Wages," Journal of Political Economy (March/April 1973), pp. 435-41; Yale Brozen, "The Effect of Statutory Minimum Wage Increases on Teenage Employment," Journal of Law and Economics (April 1969), pp. 109-22; G. M. Moore, "The Effect of Minimum Wages on Teenage Unemployment," Journal of Political Economy (July/August 1971), pp. 897-902; and James Ragan, "Minimum Wages and the Youth Labor Market," Review of Economics and Statistics (May 1977) pp. 129-36.

Department of Labor.^{41/} Thus, estimates of the magnitude of the employment effect vary from that of the previous Council of Economic Advisors, which concluded in its 1977 report that "recent studies suggest that a 10 percent rise in the ratio of the minimum wage to the average wage would decrease teenage employment by about 100,000 to 150,000"^{42/} to that of labor representatives, who predicted a negligible effect. The unemployment impact of this legislation will be borne primarily by the low-skilled, disadvantaged worker.

The rise in payroll taxes and fringe benefits paid to all workers, when combined with minimum wage legislation, increases the costs of hiring low-productive workers. Thus, any given minimum wage is more restrictive because of the increasing importance of fringe benefits. If workers pay for training opportunities in the form of lower wages, the existence of minimum wage rates may diminish the training opportunities provided by the employer to its low-wage workers. Therefore, youths who do not receive on-the-job training may have lower wages or no jobs in the future because of the restrictive nature of this legislation.

At present no formal youth differential is incorporated in the minimum wage laws; however, certificates of exemption may be obtained under certain circumstances. In fiscal 1976, 800,000 such exemptions were issued, of which 75 percent were for full-time students working part-time at their educational institutions. A lower minimum wage for youths would be expected to increase their employment opportunities. This differential may result, however, in the substitution of youths for adult workers with family responsibilities. Such a substitution could hardly be termed ideal; thus, the substitution magnitude should be determined prior to the establishment of a permanently lower youth minimum wage.

41/ For a discussion of studies conducted by the Department of Labor suggesting that minimum wages have not reduced employment, see U.S. Department of Labor, "Youth Unemployment and Minimum Wages," Bureau of Labor Statistics Bulletin (1957). Gus Tyler, "Minimum Wage - Still Fighting the War on Poverty," The American Federationist (May 1977), pp. 1-4, reviews statements from the Department of Labor and provides a clear statement of organized labor's assessment of minimum wages.

42/ Council of Economic Advisors, The Economic Report of the President (Washington, D.C.: 1977, U.S. Government Printing Office), p. 141.

IV. LABOR SUPPLY AND PUBLIC POLICY

A. Unemployment Compensation

The structure of the unemployment insurance system affects individual labor supply decisions and has a direct influence on the unemployment rate. First, benefits paid to the unemployed may prolong the job search process, or in some cases may eliminate it while the recipient awaits recall. Second, the regulations governing the earnings of workers while they are still receiving benefits may encourage workers to accept layoffs rather than reduced hours. In addition, the unemployed would be expected to decrease any part-time employment they may have pursued.

Unemployment benefits are intended to be a partial replacement for earnings while a covered worker is jobless. The income replacement rates in this program vary from state to state and by income class but are typically between 40 and 60 percent of gross income, with a ceiling on benefits. These benefits represent a significantly larger proportion of net, or take-home, pay, in part because of their tax-exempt status. In fact, the sum of public unemployment insurance benefits and supplementary unemployment benefits from the firm or union, combined with the value of increased leisure, may exceed the potential earnings of some workers, thus reducing the desire for a speedy return to work.

The availability of unemployment compensation reduces the cost of continued job search and should, therefore, encourage a more extensive search process. One of the primary objectives of the unemployment insurance legislation is to preserve job skills by enabling workers to find new employment that utilizes their existing skills. Longer periods of job search increase the average duration of unemployment and raise the measured unemployment rate.

Martin Feldstein has been the leading critic of this program, his main objection being its unfavorable unemployment effects. In a series of papers,^{43/} he argues

43/ Martin Feldstein, Lowering the Permanent Rate of Unemployment, a study prepared for the Joint Economic Committee, Congress of the United States (Washington, D.C.: U.S. Government Printing Office, 1973); and "Unemployment Compensation: Adverse Incentives and Distributional Anomalies," National Tax Journal (June 1974), pp. 231-44.

that in tight labor markets the unemployment rate may be increased up to 1.25 percentage points by this insurance system. This magnitude is lower when unemployment is at the higher rates that characterize today's labor markets. Benefits undoubtedly increase search and raise the unemployment rate; however, Feldstein's estimates of the size of this effect is subject to question. Stephen Marston reports that the unemployment insurance system contributes only an additional 0.2 to 0.3 percentage points to the unemployment rate.^{44/}

The unemployment effect may exert less influence on the hard-to-employ elements of the labor force because to be eligible for benefits, one must have been employed by a covered firm for a designated length of time. Thus, many unemployed youths who are seeking their first jobs and married women who are reentering the labor market do not qualify for benefits. Also, a disproportionate number of unemployed blacks are not eligible for compensation because of their employment incidence in noncovered jobs and high rates of job turnover.

Especially significant for this study are the criteria for benefits and the use of this program to provide partial compensation for reduced hours. In 1975, all state systems except that of Montana had some provisions for benefits to be paid to the partially unemployed. In most cases, a small amount of earnings is disregarded, then as earnings rise beyond this point, the benefit check is reduced by some fraction of the earnings. Thus, the benefit for a week of partial unemployment is usually the weekly benefit amount less the earning in that week with a specified

44/ Stephen Marston, "The Impact of Unemployment Insurance on Job Search," Brookings Papers on Economic Activity, No. 1 (1975). Daniel Hamermesh, Jobless Pay and the Economy (Baltimore: Johns Hopkins University Press, 1977), reviews the literature on the relationship between unemployment insurance and the length of job search. Also see Arnold Katz, ed., "The Economics of Unemployment Insurance: A Symposium," Industrial and Labor Relations Review (July 1977).

allowance.^{45/} While regulations vary widely between states, earnings that exceed the weekly benefit amount for the totally unemployed are sufficient to almost completely eliminate all benefits. In no state could a worker receive benefits for being unemployed one day a week or receive any compensation if earnings are 80 percent of his previous earnings base.

This system encourages workers to choose layoffs and unemployment benefits rather than reduced hours with no compensating benefits. Moderate declines in income are offset by increased hours at home. Supplementary unemployment benefits provided by the firm or union would tend to exacerbate this tendency. Thus, the structure of this program, which provides benefits for layoffs but not for reduced hours, stimulates workers and their unions to accept reduced employment rather than fewer hours per worker.

B. Social Security

One of the dominant influences on the labor supply of older workers is Social Security. The availability of benefits provides individuals with a flow of income that is guaranteed for life and that is indexed against inflation. These benefits may be enticing older workers to leave the labor force. During periods of high unemployment, the government has increased benefits and lowered eligibility requirements in an apparent effort to distribute jobs away from older persons and to the unemployed young and middle-aged workers.

Most examinations of the labor supply decisions of individuals in older cohorts have found that eligibility for Social Security Benefits has lowered market activity rates, especially over the last 25 years. Although estimates of the magnitude of labor supply effects differ, studies by William Bowen and T. A. Finegan, Lowell Gallaway, Michael Boskin, and Joseph Quinn confirm the finding that

^{45/} U.S. Department of Labor, Comparison of State Unemployment Insurance Laws, pp. 3-9. For an analysis of the incentive effects of this form of partial benefits, see Raymond Muntz, "Partial Benefits Schedules in Unemployment Insurance: Their Effect on Work Incentives," Journal of Human Resources (Spring 1970); and Arlene Holen and Stanley Horowitz, "Partial Unemployment," Journal of Human Resources (Summer 1974), pp. 420-22.

Social Security benefits decrease the work effort by the elderly.^{46/} Data from the censuses of 1940 to 1970 indicate that the decrease in the proportion of men in the labor force associated with one additional year of age for men 55-75 has been approximately twice as large between the ages of 64 and 65 as any other one-year change. Wayne Vroman reports that retirement rates peak at ages 62, 65, and 72. These ages reflect institutional aspects of the pension system.^{47/}

Social Security benefits are coupled with an earnings test that reduces the amount of the benefit as earnings rise. The earnings test has the effect of reducing the wage that individuals can achieve in the market. Response to the availability of benefits that are subject to an earnings test can be in the form of total withdrawal from the labor force or a reduction in the hours of work supplied. As a result, the Social Security system may have been the stimulus for the increasing tendency of the elderly to engage in part-time work. The proportion of employed males 65 years and older who were voluntarily part-time rose from 20 percent in 1957 to 42 percent in 1974. The increase in the incidence of part-time work among the aged was a factor in the decline of the length of the average work week.

C. Private Pensions

Private and other public pension benefits should reduce market activity in much the same manner as do Social Security benefits. Richard Barfield and James Morgan, analyzing a sample of automobile workers,^{48/}

46/ William Bowen and T. A. Finegan, The Economics of Labor Force Participation (Princeton: Princeton University Press, 1969); Lowell Gallaway, Manpower Economics (Homewood, Ill.: Richard Irwin, 1971); Michael Boskin, "Social Security and the Retirement Decision," Economic Inquiry (January 1977); Joseph Quinn, "The Microeconomics of Early Retirement: A Cross-Sectional View," unpublished report prepared for the Social Security Administration (1975).

47/ Wayne Vroman, Older Worker Earnings and the 1965 Social Security Amendments, SSA, Research Report No. 39 (1971).

48/ Richard Barfield, The Automobile Worker and Retirement: A Second Look (Ann Arbor: University of Michigan, 1970); and Barfield and James Morgan, Early Retirement: The Decision and the Experience (Ann Arbor: University of Michigan, 1969).

and Herbert Parnes, using the National Longitudinal Survey,^{49/} found that pension income was significantly associated with the retirement decision. Both studies found evidence of a threshold effect of expected retirement income.

Pension coverage is usually associated with mandatory retirement at a specified age. One survey of firms employing 50 or more workers showed that those plants without pension plans rarely had compulsory retirement provisions, while only 25 percent of the employers with pension systems did not have mandatory retirement clauses.^{50/} The Bureau of Labor Statistics reported that in 1974 over 50 percent of all covered workers were in pension plans with automatic or compulsory retirement provisions.

Retirement from a job or termination of a long-term career does not necessitate withdrawal from the labor force. Retiring from one's job may, however, entail loss of seniority protection. The termination of seniority and the loss of job-specific skills will usually produce a fall in the wage offers that older workers can attract. These individuals may also find it more difficult to find any full-time employment.

Some plans may place earnings or work limitations as a condition for receipt of pension benefits. Multi-employer pension agreements frequently do not permit an individual to continue to work in his trade and simultaneously to draw pension benefits. Those factors indicate that the private pension system has encouraged withdrawal from the labor force and has increased the tendency of the elderly to rely on part-time work.

49/ Herbert Parnes et al., *The Pre-Retirement Years*, vol. 4, Manpower Research and Development Monograph No. 15, U.S. Department of Labor, (Washington, D.C.: U.S. Government Printing Office, 1975).

50/ Fred Slavik, "Compulsory and Flexible Retirement in the American Economy," Cornell University, School of Industrial and Labor Relations, Ithaca, New York, 1966.

D. Fiscal Policy and Labor Supply

Thus far in this chapter, the potential influence on the labor supply of the unemployment insurance, Social Security, and private pension systems has been reviewed. The existing regulations of the unemployment compensation system encourage workers to seek layoffs rather than reduced hours. Social Security and private pensions have stimulated the withdrawal of older workers from the labor force. The availability of benefits in many cases may imply that senior workers could receive a higher income by retiring than if they accepted reduced hours. On balance, these programs as presently constituted will retard any movement toward work sharing.

These certainly are not the only government actions that influence the labor supply decisions of Americans. The incentive effects of taxation, especially the progressive personal income tax, have long been debated. For low-income families, welfare benefits may discourage work effort. In addition, the eligibility conditions for certain programs such as food stamps may alter the relative cost of layoff compared to that of hours reduction.

At present, the willingness of workers to accept work-sharing schemes or layoffs is significantly influenced by government programs and regulations. Subsequent chapters discuss possible modifications in public policy that would increase the incentive for individuals to choose reduced hours. The impact of these efforts on employer's costs and, therefore, on their willingness to provide work sharing rather than layoffs must also be recognized.

V. TRANSFORMING REDUCED HOURS INTO JOBS

A. Variation of Hours and New Job Potential

Each firm must decide the appropriate least-cost option of meeting its manpower requirements given the existing and expected social and economic environment. The extent of hours fluctuation or employment changes is a firm-specific decision. Shifts in product demand vary widely between industries and among firms within an industry. Thus, individual firm data is necessary for an accurate measure of the tradeoffs with hours to maintain or expand employment.

With this caveat clearly in mind, let us examine several hypothetical questions relating schedule modification to employment expansion. First, if aggregate data are used, how much would the average workweek have to be reduced to lower the unemployment rate by one percentage point? The following mathematical identity will be useful to our analysis:

$$U = L - \frac{Q}{P \cdot H} .$$

The number of unemployed persons (U) is equal to the labor force (L) minus the national output (Q) divided by average labor productivity (P) times the average hours per worker (H). The term $\frac{Q}{P \cdot H}$ is equal to the number of people employed.

Assume for the moment that total output, productivity, and the size of the labor force are unaffected by changes in longer hours or additional employment. A 1 percent reduction in average hours is associated with a 1 percent increase in the level of employment. This would represent approximately a one percentage point increase in the employment rate and a corresponding one percentage point decline in the unemployment rate. Using 1976 labor force data, a decline in the average workweek of 3 percent, or about 1.2 hours, would be sufficient in this model to reduce the unemployment rate to 5 percent. One cannot help but be impressed by the impact of minor adjustments in the length of the average workweek on the unemployment in this framework.

This type of analysis is, of course, unrealistic and may produce misleading results. If the shift to shorter hours and greater employment increases firm expenditures as described in Chapter II, then aggregate demand and therefore production may fall. The unemployed may not possess the skills necessary to adequately perform the needed tasks. This lack of skills may prevent the substitution of employment for hours and would certainly lower productivity and raise unit costs.

Overtime hours and moonlighting are often cited as potential sources of employment expansion. The unanticipated short-run nature of overtime has already been discussed as a possible deterrent to the transfer of these hours to increased employment even with high rates of premium pay. Michelotti also doubts whether moonlighting jobs could be redistributed to the unemployed. "A review of the kinds of secondary jobs held by moonlighters, the hours worked, and their earnings as related to the job desires and skills of the unemployed strongly suggests that very few of the unemployed could or would take jobs held by moonlighters."^{51/}

Differences in training requirements and the quasi-fixed costs of employment between firms imply that the ability of companies to switch to reduced hours is subject to much variation. If the cost effects of shorter hours increase output prices, then the elasticity of product demand will determine the reduction in total manpower requirements because of the higher unit costs. Thus, policy initiatives that increase labor costs while trying to stimulate shorter hours and more employment will not be able to achieve the anticipated gains in employment.

B. Government Policies to Influence Manpower Choices

1. Partial Unemployment Compensation

The regulations governing the payment of unemployment compensation alter the willingness of workers and their unions to accept reduced hours as opposed to layoffs. As noted in Chapter IV, prevailing characteristics of the American unemployment insurance program discourage

^{51/} Michelotti, "Multiple Jobholding Rate," p. 59.

work sharing because workers whose wages are reduced by a shorter workweek are not eligible for benefits. In sharp contrast are the European programs that have been specifically designed to encourage firms to adopt work-sharing practices.

Work sharing in Europe generally implies that workers are compensated for a percentage of lost wages caused by reduced hours. The benefits may be paid directly to the worker or through the firm. Charles Stewart recently completed a report for the National Commission for Manpower Policy examining the manpower initiatives in Europe during the 1974-75 recession.^{52/} Stewart reports that in West Germany the 1969 Employment Promotion Act has significantly encouraged the use of reduced hours as the primary method of manpower reduction. Under this program, workers receive 68 percent of wages lost as a result of temporary workweeks that are below normal. Initially, these benefits could be continued for up to 6 months; however, during the recent recession the eligibility period was extended from 6 to 12 months and in some cases up to 24 months.

The effectiveness of the program is indicated by the fact that in the spring of 1975 almost one million workers were receiving partial unemployment benefits, roughly equivalent to the size of the fully unemployed labor force. The German embassy reported that during 1975 an average of 0.75 million workers received benefits from reduced hours. For these workers, average working hours fell by approximately one-third and without work sharing a similar manpower reduction would have added 170,000 workers to the unemployed ranks. This record led the German government to claim that compensation for partial unemployment has proved to be an effective instrument of labor market policy.^{53/}

At the beginning of 1975, France initiated a program centered around the National Employment Fund (FNE) to attempt to persuade companies to reduce hours instead of dismissing workers. As of February 1976, workers in firms that contribute to the FNE could receive a maximum of 50 percent hourly wage replacement, with a minimum benefit

^{52/} Charles Stewart, Recent European Manpower Policy Initiatives, a special report of the National Commission for Manpower Policy (November 1975).

^{53/} Embassy of the Federal Republic of Germany, "What's New in Labor and Social Policy?" (April/May 1976), p. 7.

of seven francs per hour. To further encourage management to offer reduced hours, the firm is reimbursed for a portion of the extra cost associated with retaining workers. It was claimed that the government action to reduce working time had prevented 40,000 layoffs in 1975.^{54/}

Other European countries that have adopted partial unemployment programs are Austria, Belgium, Italy, Luxembourg, and the Netherlands. Tables 6 and 7 illustrate the extent of coverage for some of these programs. For a more detailed discussion, the interested reader should examine Stewart's study and Reexamining European Manpower Policies, both reports for NCMP.

Should the United States reorganize its unemployment insurance program to permit the payment of benefits for workers on reduced hours? The existence of partial benefits will make workers more willing to accept reduced hours and therefore will reduce the level of unemployment. The magnitude of this employment saving technique would depend on the attitudes of individual workers and unions. With no other changes, the cost to the firm of various manpower options would not be altered and thus management's incentive to offer work sharing would be unchanged. The size of the response by workers and firms to partial unemployment compensation is unknown, and further research should be devoted to assessing these reactions.

In reviewing their own experiences, some European analysts believe that work sharing could create a series of labor market problems. Shorter hours could reduce the incentives for policymakers to create new job opportunities, while subsidies to firms might encourage management to delay the adoption of new technology. If the program applies only to the existing work force of firms, it may become even more difficult for youthful new job applicants to obtain employment. Thus, work sharing should not be considered as a cure-all with no costs; one must be aware of the advantages and the disadvantages of the program.

Partial compensation may create administrative and application problems. The unemployment insurance service has raised a series of difficulties in shifting to a system

54/ Jean-Pierre Dumont, "French Employment Policy During 1974-1976," in Reexamining European Manpower Policies, a special report of the National Commission for Manpower Policy (August 1976), p. 109.

Table 6. COVERAGE OF EUROPEAN WORK SHARING PROGRAMS, 1975

COUNTRY	NUMBER OF SHORT-TIME WORKERS (000)	SHORT-TIME EMPLOYEES AS PERCENT OF EACH NATION'S FULLY UNEMPLOYED WORKERS
Belgium (Mar/May '75)	80	69
France (April/Mar '75)	309	41
Germany (May '75)	922	91
Great Britain (May '75)	220	27
Ireland (May '75)	6	7
Italy (Jan/Mar '75)	569	52
Netherlands (Apr/May '75)	79	45

SOURCE: Martin Nemirow, "Work-Sharing - Past, Present and Future," unpublished study by Department of Labor, Washington, D.C., May 1976, p. 12.

Table 7. CHARACTERISTICS OF WORK SHARING SYSTEMS

COUNTRY	WAGE REPLACEMENT RATE	BENEFIT DURATION
Austria	40-60	- 13 weeks
Belgium	60	*
France	50	470 hours/year
Germany	68	52-104 weeks
Italy	67-80	3 months
Japan	60	*
Luxembourg	80	26 weeks
Netherlands	100	18 weeks
Norway	-	21 weeks and up depending on age

* = not available or not applicable.

SOURCE: Martin Nemirow, "Work-Sharing - Past, Present and Future," unpublished study by Department of Labor, Washington, D.C., May 1976, p. 13.

of compensation for one day of unemployment per week.^{55/}
 These problems include:

1. For a program to be established nationally, all state laws dealing with partial compensation would have to be rewritten.
2. How would these workers be treated relative to normal part-time employees?
3. In some states, the employer's experience rating is determined by the number of claimants and not by the benefits received. Thus, work sharing would increase the tax rate of firms in these states.
4. More workers at shorter hours raises the total tax paid by employers (see Chapter III).
5. Current regulations require that the first 26 weeks be compensated from the state UI fund, and that the subsequent 13 weeks be equally divided between the state and federal funds, whereas benefits for a long duration of unemployment are totally federally financed. Therefore, work sharing would increase the costs for the state.
6. Administrative costs would rise with the increased number of beneficiaries.

Martin Nemirow reviews these objections and adds several of his own to the list. He concludes that these difficulties are not insurmountable and that federal subsidies for partial benefits are one answer to several of the criticisms. Nemirow believes that "it is not unreasonable to contemplate putting such a system into place now, to stimulate more work sharing during the very slow decrease in unemployment we face in the next few years...."^{56/}

The evidence indicates that partial unemployment compensation would modify the incentives of workers and unions toward accepting reduced hours. The merits of

^{55/} Martin Nemirow, "Work-Sharing - Past, Present and Future," unpublished study by the Department of Labor (Washington, D.C., May 1976), pp. 37-38.

^{56/} Ibid., p. 24.

payments for short time and the induced unemployment reduction are sufficient to justify pilot programs to enable a better assessment of the labor supply response to the program and the additional costs that may arise. If administrative problems and jurisdictional difficulties are not too severe, partial compensation could become one of the nation's front-line programs retarding the growth of unemployment.

2. Tax Policy

The impact of federal tax policy on manpower decisions has been reviewed earlier in this report. Taxes that necessitate additional expenditures by firms as they increase the use of labor will decrease their total demand for manpower services. Changes in the relative price of hours per worker compared to altering the size of the work force will bias the firm's manpower decisions. Recognition of these influences may stimulate the use of tax policy to encourage new hirings.

The Carter administration's economic stimulus package recently passed by Congress includes an employment tax credit. The credit for hiring new people in 1977 is 50 percent of the wages an employer reports for unemployment taxes, with a maximum credit of \$2,100 per employee and \$100,000 for each firm. The actual reduction in employer taxes will, however, be less than the \$2,100 because companies must reduce the tax deduction they take on wages by the amount of the tax credit. Thus, for firms with over \$50,000 in taxable income that are in the 48 percent corporate tax bracket, a net savings of only \$1,092 per new employee hired will be achieved. Despite this offset, new hirings are now less costly and employment should be increased. The maximum benefit of \$100,000 per firm will limit the response of large companies to this incentive program. To achieve maximum employment expansion per dollar loss of potential tax revenue, all tax credits should be aimed at new hirings and not merely at labor costs. European countries have also experimented with wage subsidies for net additions to employment.^{57/} The additional cost of wage subsidies that increase employment is offset in part by reductions in income maintenance expenditures and increased tax payments from those reemployed. Employment subsidies can be aimed specifically at youths and minorities to increase the utilization of these hard-to-employ groups.

^{57/} Stewart, Recent Initiatives, pp. 24-26.

Part-time work or shorter hours may also be directly stimulated through the tax system. Representative Barber Conable of New York introduced a bill (HR 12414) to encourage permanent part-time employment by providing a tax credit to partially compensate for the extra costs of part-time employment. Henle has discussed the possibility of government payments to employers in reimbursement for the additional costs sustained under a work-sharing program. Difficulties with this program would arise in the calculation of the differential costs associated with hour reductions. A related policy is to provide a flat payment per employee or man-hour involved in work sharing. The benefits of this method would vary across firms and tend to penalize those employers with the highest proportion of total compensation in the form of fringe benefits.^{58/} In an interview in Fortune Magazine last summer, President Carter indicated his interest in a program that would keep people employed "for a shorter week, and let the government and the industry share the added costs."^{59/}

Payroll taxes with earnings ceilings have significantly altered the costs of hours per worker relative to new hirings. Perhaps in recognition of this factor, the Carter administration in its early days proposed a tax credit against the employer portion of the Social Security tax. This would have decreased the cost of new hirings as well as making it a more attractive option relative to longer hours. This proposal was reversed, and now, to increase the revenues to the Social Security trust funds, the administration has advocated that all payrolls be subject to this tax. The removal of the ceiling would raise employer costs and thus reduce the demand for manpower services. It would, however, eliminate cost savings from the use of longer hours and thus encourage hiring relative to the expansion of hours. Man-hours would decline but the effect on employment is ambiguous.

The employment effects of the introduction of a national health insurance (NHI) program should be assessed. Bridger Mitchell and Charles Phelps find that the higher labor costs necessary to finance NHI would in the short run increase unemployment.^{60/} To the extent that the payroll

58/ Henle, "Work-Sharing," p. 37.

59/ "Jimmy Carter on the U.S. Economy and Business," Fortune (May 1976), p. 185.

60/ Bridger Mitchell and Charles Phelps, "National Health Insurance: Some Costs and Effects of Mandated Employee Coverage," Journal of Political Economy (June 1976), pp. 553-72.

tax can be shifted forward to workers in the form of lower wages, the unemployment effect may be transitory. If a ceiling on covered earnings is incorporated into the tax structure, this insurance program may compound the bias against work sharing that currently exists in our social insurance systems.

Preferential tax treatment of fringe benefits has been one of the primary determinants of the rapid growth of these benefits. The tax-exempt status of in-kind income may soon be changed. Jerome Kurtz, new Commissioner of the Internal Revenue Service, believes that most fringe benefits are taxable. He states that "the statute says all income is taxable and I believe that's right. I believe that's the way an income tax ought to be administered. And all income includes income in kind as well as income in cash."^{61/} Fringe benefits are one of the major costs that influence a firm's manpower decisions. The taxing of these benefits will eliminate one of the reasons for their rapid growth. Decreasing the proportion of compensation paid in the form of fringes would ease the transition from a layoff system to work sharing.

Tax credits or government subsidies could be used to reduce the cost of training that a firm incurs when it hires new workers. As shown earlier, training costs are an important component of the quasi-fixed expenditures of adding an additional worker. High training costs represent a deterrent to expanded employment and encourage longer hours. Thus, a program of training subsidies or tax credits would shift the relative price of the manpower options in favor of employment. The government must guard against the use of these funds by employers to provide training that will be of benefit solely to that firm. If this occurred, workers released from the training firm would once again be searching for employment with few marketable skills. Thus, training subsidized by government funds should be usable by numerous companies.

^{61/} "New IRS Head Proposes Vigorous Stand on Loopholes, Tax on Fringe Benefits," Wall Street Journal (Monday, May 23, 1977), p. 4. Also see "Next You'll Pay Taxes on Your Fringe Benefits," U.S. News and World Report (July 18, 1977), pp. 26-28.

Investment in the training of younger workers may be an especially strong force inhibiting the employment of disadvantaged individuals. These potential employees usually enter the job market with only marginal skills and need additional training. In their relationship with these workers, firms are also most likely to be restricted by minimum wage legislation. The added costs may induce firms not to hire the hard-to-employ, and if they do employ such workers, not to provide the same degree of training that they normally would provide for a new worker.

3. Hours Limitation and Premium Pay

Since the thirties, the government has attempted to limit long hours through the use of a legally mandated premium pay schedule. Current legislation requires that for covered employment all hours over 40 per week must be compensated for at the rate of 150 percent of normal pay. Is this rate of premium pay adequate to stimulate the substitution of new employment for longer hours?

During periods of high unemployment, labor leaders and public officials have often cast covetous eyes at prevailing overtime hours. Several arguments emerge from the public debate concerning overtime legislation. First, the increased use of fringe benefits, which are usually unaffected by overtime payments, has reduced the effectiveness of the overtime premium. In addition, since the passage of the Fair Labor Standards Act in 1938, the investment that firms make in hiring and training their employees has risen substantially. Therefore, if a 50 percent premium was justified prior to 1940, do the conditions of the 1970s not warrant a double- or triple-time premium?

In the 1960s, the Johnson administration favored selective increases in the penalties for long hours. Legislation was offered that would have authorized the Secretary of Labor to appoint industry committees that could recommend double pay for hours after 40 per week in their respective industries. The increased premium would take effect only after the Secretary had determined that it would increase employment in the industry without excessive cost increases. The bill was not reported out of the House Commission on Education and Labor.

Overtime regulations can also be made more restrictive by reducing the number of hours before the penalty rate becomes effective. This raises the cost of long hours by increasing the number of hours subject to premium pay. Recent proposals have suggested reducing this hours limit to 32 or 35 hours per week. Union leaders argue that any reductions in the length of the workweek must be accompanied by increases in hourly wage rates so as to maintain take-home pay. The combination of reduced hours and higher hourly wages will increase the labor cost to firms. A reduction in hours from 40 to 39 requires that the hourly wage rate be increased by 2.6 percent to maintain the take-home earnings of employees. Greater reductions in the workweek necessitate proportional increases in hourly rates as illustrated below:

<u>Length of workweek</u>	<u>Percent increase in hourly wage necessary to maintain the same earnings as a 40-hour week</u>
39	2.6
38	5.3
37	8.1
36	11.1
35	14.3
34	17.7
33	21.2
32	25.0

Total labor compensation would rise by these amounts plus any increased costs associated with additional hirings.

It should be noted that annual productivity increases have been roughly equivalent to the additional costs of a one-hour reduction in the workweek. Thus, it would be possible to gradually implement the decline in the workweek without a severe impact on unit labor costs. This is true, however, only if workers are willing to accept all of their productivity gains in the form of hours reductions and forego increases in earnings during the years that the workweek is reduced.

As illustrated in Appendix A, the effectiveness of increasing the overtime premium would vary between industries because the costs associated with hiring new employees are not uniform. Ehrenberg estimated that the decrease in overtime hours ensuing from an increase in

the premium rate to double time ranged from 5 hours per year to 123 hours per year in the two-digit SIC code manufacturing industries. These reductions represent decreases in overtime hours of 2 and 43 percent in their respective industries. If the total man-hours demanded had remained constant and all decreases in overtime hours were translated into new jobs for full-time workers, employment increases would have been between 1 and 3 percent for most of the manufacturing industries. Applying these estimates to actual employment levels would have produced an overall increase in employment of 1.6 percent, or 218,500 new full-time employees. The increase in employment in the nonmanufacturing sector would be substantially smaller because of the shorter workweeks that prevail in these industries.^{62/}

These estimates should be considered an upper limit on the employment-expanding potential for raising the overtime premium. The higher costs imposed on companies would tend to reduce the total demand for manpower services and hence lower the number of new jobs generated by the policy. Ehrenberg finds that overtime hours are not easily converted into new jobs and, therefore, increases in the penalty rate do not appear to be an effective method of decreasing unemployment.

4. Public Sector Employment

During the recent recession, it has been suggested that the federal government assume the role of employer of last resort. The appropriation of sufficient funds to provide full-time employment for all who are seeking work would reduce the importance of and the need for examining work-sharing programs. However, objections to the required costs of such an endeavor and application problems make it unlikely that guaranteed employment legislation will be enacted.

Recent legislation has significantly increased the authorized funding for public service employment and public works projects. These funds could achieve a greater reduction in the size of the unemployed work force if individuals were hired for short-hour weeks. Workdays could be either six or seven hours in length, or a four-day

^{62/} Ronald Ehrenberg, "The Impact of the Overtime Premium on Employment and Hours in the U.S. Industry," Western Economic Journal (June 1971).

workweek could be adopted. In either case, more people would be employed per dollar of expenditure on public sector jobs. Other government expenditures for welfare benefits might be required, however, to bring these public employees up to an adequate income level. In addition, if the government seeks to induce firms to shift to shorter weeks, the example set in public sector employment may be important.

5. Other Initiatives to Reallocate Employment

Modifications in the overtime legislation to include longer blocks of time might be useful in employment expansion. For example, a limit on hours worked in each year could be coupled with the existing ceiling on hours per week. This expansion could be set to provide all employees at least one month's vacation every year unless the firm was willing to pay the overtime premium.

In recent years, the idea of sabbatical leaves for workers has emerged in the time allocation debate. The size of the labor force competing for jobs could be reduced if some workers were induced to take voluntary leaves. Benefits similar to Social Security payments could be made available to workers who have accumulated sufficient work credits, for example, six months' or a year's leave, for every seven or ten years of work. The worker would need to be guaranteed that he could return to his job the following year and retain his seniority. The employment-expanding potential of these programs would be dependent on the labor market activities of employees while they are on leave. If they compete for new employment during their leave, fewer vacancies would be filled by the unemployed.

Training programs could be made more attractive to the middle-aged worker. The availability of educational opportunities might be an integral part of any annual leave program. A coordinated system of educational leaves would increase the flexibility of the labor force to shifts in the composition of aggregate demand. Enrollment in approved training programs could also be made a condition for long-term unemployment benefits, thereby reducing the idleness of human resources.

Early retirement programs encourage older workers to opt for retirement rather than for continued job search. In the United States, liberalization of Social Security benefits has often coincided with high rates of

unemployment. In 1976, the Belgian government enabled all workers to apply for a prepension after the age of 62 for men and 58 for women. These workers will be entitled to unemployment benefits even if they leave their jobs of their own free will, and this is in addition to the prepension, which is equal to half the difference between the unemployment benefit and their previous net wage. These workers are then forbidden any form of gainful occupation.^{63/}

Throughout this chapter, several public policies have been examined for their impact on the relative costs of hiring and flexible hours. Another possible option would be to require firms to continue to provide certain fringe benefits to their workers for a specified duration after they are laid off. This would remove one of the significant incentives for layoffs rather than shorter hours. The extension of health insurance would be a primary candidate for this program. In 1975, the average health insurance premium was approximately \$500 per year.^{64/} Thus, the mandatory extension of this benefit would exert an impact on the marginal decision by firms concerning the reallocation of manpower in response to shifting demand.

^{63/} Jef Van Langendonck, "Pushed Out of the Cookoo's Nest," in Reexamining European Manpower Policies, pp. 147-48.

^{64/} Report in HEW memorandum cited in Nemirow, "Work-Sharing," p. 25.

VI. JOBS FOR THE HARD-TO-EMPLOY

A. Introduction

At all levels of employment, certain groups of individuals have consistently had an above average incidence of unemployment. These groups include workers with only marginal skills, those with limited mobility or information about available jobs, and those who are discouraged and have discontinued their job search. These "hard-core" unemployed are concentrated among youths, whose unemployment rate has averaged three times that of adults; blacks, with unemployment rates twice that of whites; and females, whose unemployment rates have averaged 1 1/2 times that of males.

Adoption of programs to reduce the average number of work hours may result in the creation of additional jobs; however, the remaining question is whether or not jobs will be extended to these hard-to-employ workers. Employers, seeking to minimize costs, will hire those workers who are the most productive and the disadvantaged workers will be able to compete for the newly created jobs only if they are as qualified for the positions as other available workers. These individuals possess certain characteristics which discourage employers from hiring them; i.e., the lack of a basic education or job skills imposes additional costs on the private employer as he finds it necessary to increase the length of the training period. They may also encounter the lingering barriers of discrimination in the labor market.

B. Training and Firm Decisionmaking

The private employer will hire the disadvantaged worker if the net benefit of hiring him exceeds the net benefit of hiring any other worker. As described previously, the costs of hiring include fixed recruitment and hiring costs, training costs, fringe benefits, and wage payments. In most cases, the costs of hiring the disadvantaged exceed the costs of hiring other workers because the hard-to-employ often lack adequate training. Training costs are therefore greater and the investment period is longer. Teenagers and women are volatile members of the labor force; they are more likely to change jobs, opt for part-time employment, or drop out of the labor force in response to market and family pressures.

Manpower training programs may influence the firms's decisionmaking process by decreasing the relative cost of hiring the disadvantaged. In addition, disadvantaged workers in these programs are placed in contact with the U.S. Employment Service, and a concerted effort is made by the government to find employment for these workers, thus lowering the cost of recruiting the disadvantaged worker. Thus, it is reasonable to conclude that if jobs were available, firms could be persuaded to increase their hiring among the hard-to-employ through the use of training programs and wage subsidies; the cost effectiveness of these programs, however, is subject to debate.

C. Manpower Programs

The Manpower Development and Training Act of 1962 was enacted to "improve the adequacy of the nation's manpower development efforts to meet foreseeable manpower needs and recommend needed adjustments."^{65/} The initial concern was for unemployment in depressed areas where mature workers were displaced as a result of technological change and industry relocation. The focus of manpower policy gradually shifted, however, to young workers and workers who had never acquired skills.

A detailed review of manpower programs is beyond the scope of this paper and perhaps unnecessary in light of Garth Mangum's recent assessment of the development of government training in the United States.^{66/} Manpower programs can be classified into the categories of institutional training or education programs and on-the-job training. Institutional training emphasizes the acquisition of general job skills that are applicable to many firms. Most institutional training centers are located in central city slum areas, where the hard-core unemployed are concentrated; participants in these programs are not removed from their home environments. One exception to this rule has been the Job Corps program. This program removed poor youths from their home environments and placed them in residence elsewhere in one of the Job Corps centers. The Job Corps was intended to provide teenagers with basic education and training away from the debilitating effects of the slum environment.

^{65/} Garth L. Mangum, The Emergence of Manpower Policy, (New York, Holt, Rinehart and Winston, 1969), p. 39.

^{66/} Garth L. Mangum, Employability, Employment and Income (Salt Lake City: Olympus Publishing Company, 1976).

On-the-job training subsidizes the training of the disadvantaged worker by the employer. The skills provided by the new employer may be firm-specific and thus, with the loss of employment, these skills may be useless to other firms. Government subsidies lower the cost of training for the employer and he is encouraged to offer training to the unskilled, disadvantaged worker. If these disadvantaged workers are not subsequently hired by employers, the program has failed. Programs indicate that private employers can be induced to hire disadvantaged workers if the financial resources are available through training subsidies making disadvantaged workers competitive with other workers.

Recent federal initiatives to combat youth unemployment include the establishment of a Youth Employment and Training Program, a doubling of the Job Corps, and a National Youth Conservation Corps.^{67/} Congressional initiatives have modified the plan to provide part-time jobs for youths that remain in or return to school. These programs will reduce the unemployment rates of teenagers by providing them with government jobs and, it is to hoped, the skills to compete in the private economy.

D. Unemployment Reduction

The demand for labor is a derived demand implying that firms do not demand labor for its own sake but for what workers can produce. When the demand for output increases, jobs are created and the new workers are employed. Training programs cannot increase demand or create jobs; thus, manpower programs will be most effective in periods of high aggregate demand and tight labor markets, when qualified workers are in short supply.^{68/} The manpower programs are able to help the economy avoid shortages of workers with specific skills.

Goals of manpower programs include improving the matching of workers and jobs to reduce frictional unemployment, reducing the unemployment rates of the hard-to-employ,

67/ Diane Westcott, "The Nation's Youth: An Employment Perspective," Worklife (June 1977), pp. 13-18.

68/ Lester Thurow, "Redistributional Aspects of Manpower Training Programs," in Lloyd Ulman, Manpower Programs in the Policy Mix (Baltimore: Johns Hopkins University Press, 1973), pp. 83-101.

providing workers with skills in areas with current labor shortages, and improving the operation of the labor market. Training programs have been based on the assumption that improving a worker's job skills and educational background would increase his opportunity to obtain desirable employment with a living wage. Recently Peter Doeringer and Michael Piore, and Lester Thurow have questioned the validity of this hypothesis.^{69/} They assert that background characteristics and the relative ranking in the labor queue and not one's productivity limit future success in the labor market.

An evaluation of training programs usually indicates that the work experience of the trainees is improved relative to that of a control group. Questions as to the effectiveness of manpower programs arise when the costs are compared to the benefits. In addition, it must be determined if the jobs for which the trainees are hired would have been left unfilled, or if the trainees merely bump other workers out of these jobs. It is generally concluded that the private rate of return to the trainee is significant; the social cost-benefit ration, however, is more difficult to ascertain, and there have been large variations in the reported values.^{70/}

E. Jobs for the Hard-to-Employ

This report has examined the manpower decisions by firms in an effort to determine the viability of increasing employment by altering the relative prices of the manpower options. If companies can be encouraged to reduce their workweek and expand employment, will the newly created jobs be offered to the disadvantaged? Without special incentive to management, new hirings will be on a least-cost basis and the hard-to-employ may well remain in the ranks of the unemployed.

69/ Peter Doeringer and Michael Piore, Internal Labor Markets and Manpower Analysis, Lexington, Mass.: D.C. Heath, 1971; and Lester Thurow, Generating Inequality, New York: Basic Books, 1975.

70/ For example, see G. G. Somers and W. D. Wood, eds., Cost-Benefit Analysis of Manpower Policies (Kingston, Ontario, Industrial Relations Centre, Queen's University, 1969) and Sar Levitan and Benjamin Johnston, The Job Corps: A Social Experiment That Works (Baltimore: Johns Hopkins University Press, 1975), for assessment of manpower programs.

Work sharing as it is usually practiced protects only those individuals who are already employed. If hours are reduced, existing workers may seek a second job, and the increased incidence of moonlighting may preclude employment opportunities for the disadvantaged. Increases in total employment can only help the job prospects of the long-term unemployed; additional programs must be adopted, however, in order for there to be a significant impact on the probability of their obtaining employment. To specifically encourage the hiring of the hard-to-employ, the government must increase training programs, and wage subsidies. Only a coordinated program of employment expansion through reduced hours and increased incentives to hire the disadvantaged will significantly lower the unemployment rates for these groups.

VII. A POLICY AGENDA

This study has examined the factors that determine the optimal manpower choices of firms. The two primary alternatives that may be adopted are (a) to maintain or increase employment by adjusting hours per man and (b) to maintain or increase hours, thus producing higher rates of unemployment. A review of existing programs reveals that public policy has increased the costs to firms and individuals of opting for fewer hours and increased employment. While such a bias may be unimportant in a full-employment economy, governmental policy that aggravates unemployment when the nation is struggling to extricate itself from a prolonged period of above normal unemployment may prove to be unacceptable.

Each of the programs that has produced the bias in the relative prices of the manpower options was adopted for a specific set of objectives. Thus, prior to any modification removing the increased governmental costs of shorter hours, these changes should be examined for their impact on the goals of each program. Subject to a review of their influence on other social objectives, the following policy recommendations are offered to decrease the unemployment rate by encouraging a reduction in the hours of work.

- ° Immediate attention should be given to restructuring the unemployment insurance system in order to provide compensation for involuntary reductions in work schedules. This modification would remove much of the incentive for workers to favor layoffs over reduced hours. Benefits could be keyed to reduced hours per week or could be provided to workers who are laid off for one day per week. To further encourage work sharing instead of unemployment, the government should explore the possibility of compensating firms for a portion of the added costs incurred by retaining workers.
- ° Employer payroll taxes for those who are newly hired should be removed during periods of high unemployment. The elimination of these taxes would reduce the incentive for management to utilize its current workers for longer hours. This policy could be introduced in conjunction with President Carter's proposal to transfer

general revenues to the Social Security fund during recessionary periods.

- ° A six- or seven-hour workday should be made the standard for those employed under public service employment programs. While this might necessitate that some of these workers remain eligible for certain welfare benefits, it would permit increased employment using the funds allocated by Congress.
- ° Any reassessment of the taxable nature of fringe benefits should include their impact on the quasi-fixed costs of hiring and the related bias toward longer hours. While this factor alone may not be sufficient to alter tax policy, its inclusion in the review process along with other concerns will strengthen the arguments for such a modification.
- ° Prior to the institution of a national health insurance system, the employment effects of alternative funding programs must be examined. The impact of an additional payroll tax on total man-hours demanded, as well as the influence on the marginal decision of longer hours for current workers versus additional hirings, should be analyzed.
- ° For disadvantaged workers to benefit from the employment-expanding effects of reduced hours, the government must continue to provide training opportunities to enable these individuals to acquire the necessary job skills. The administration's emphasis on youth employment and training programs would be an important part of a coordinated effort of work sharing to create job vacancies and of manpower programs to enable the disadvantaged to compete for these openings.

This report has dealt primarily with government policy that has biased manpower decisions in favor of lower levels of employment. The recommendations outline policies to restore the choice of the optimal allocation of labor by firms to economic efficiency criteria and,

therefore, should have a positive impact on national welfare and employment. Most of these proposals would also lower labor costs, thereby increasing the demand for total man-hours.

Nothing in this analysis should be viewed as an attempt to dissuade government officials from concentrating on economic growth and a return to full employment. The recommendations provide an agenda to restore public policy to a neutral position in its influence on the hours per man or employment decisions that firms encounter. In general, no proposals are offered that would bias firms toward reducing hours beyond a point determined by private costs and efficiency. Thus, specifically not recommended is an increase in the overtime premium. Most of the available evidence indicates that overtime legislation is an ineffective means of increasing employment, while at the same time it raises unit labor costs.

Further research is needed in the following areas to enhance future policy initiatives that influence manpower decisions as well as the labor supply of individuals.

- ° It is imperative that additional research be carried out on the labor supply and demand effects of payroll taxes. If current demographic trends continue, substantial increases in these taxes will be necessary. Therefore, the relative merits of increased tax rates or higher earnings ceilings must be assessed, and consideration should be given to their influence on the hours or employment options that employers encounter.
- ° The increased labor market activity of married women has been one of the most significant changes in the labor force during this century. Yet our understanding of the simultaneous decisionmaking process within the family unit is severely limited. Further research is needed on the impact of the entrance of married women into the labor force on the demand for part-time work and shorter hours; on the labor supply of their husbands; and on unemployment, job search, and retirement patterns.

- ° The distinguishing characteristics of part-time workers need to be examined, and efforts should be made to project the future proportion of the labor force that will desire shorter hours. Demand for part-time employees by industry could be analyzed and the impact of the shifting industrial composition of the economy assessed. A comprehensive review of the impediments to part-time employment should be made, along with the impact on national output if the incidence of part-time work increases.

APPENDIX A

COST CALCULATIONS

This appendix illustrates the influence of the expected duration of the change in demand and the relative costs of employment expansion and longer hours. Let us initially assume that all earnings, both straight time and overtime, are covered by payroll taxes and that the hours of the current work force are at the straight-time limit.

Total cost of hiring:

$$(1) \quad Wt + \alpha Wt + Ct + FB + R + M + \sum_{t=1}^{t^*} (1 - e)T$$

Total cost of overtime:

$$(2) \quad 1.5Wt + 1.5(\alpha W)t + 1.5Ct$$

where

W = hourly wage rate plus any fringe benefits that are directly correlated with hours or total earnings,

α = payroll tax rate (new workers' entire earnings are assumed to be subject to tax),

C = hourly supervision costs of employee,

FB = fringe benefits that must be paid if a worker is on the payroll,

R = fixed costs of recruiting new workers,

M = fixed costs of materials used to train the new employee,

e = the efficiency of each employee. New workers are hired at some level of proficiency. As they receive training, e rises until these employees are as productive as the previous workers,

T = hourly training costs if $e = 0$. This would include the instructor's time, lost output while undergoing training, and lower output of the trainee compared to experienced workers. The result of increased efficiency is to reduce training costs. When the new workers are as productive as the older employees,

i.e., $e = 1$, training costs are eliminated.^{71/}
This is achieved at t^* .

The number of hours it takes to equalize the costs of two options is determined by setting equation 1 equal to equation 2 and solving for t .

$$(3) \quad t = \frac{t^* \left(\frac{FB + R + M + \epsilon}{f=1} (1 - e) T \right)}{.5(W + \alpha W + C)}$$

For hours below the value of t that satisfies equation 2, the appropriate response by the firm is to use overtime. Longer hours imply that management should hire additional workers.

Further, this result indicates that increases in the quasi-fixed costs of fringe benefits, and of recruiting and training expenditures will raise the number of additional hours of work needed before the company will choose employment expansion as the least-cost option. Increases in the overtime premium will reduce the equalizing number of hours. Since wage costs represent part of training expenditures, T , the effect of higher wages and the payroll tax rate is ambiguous. A lengthening of the training period reduces the likelihood that increased employment is the optimal choice. Thus, skilled workers should be used more extensively in response to increased demand than nonskilled employees.

A numerical example may be useful in illustrating these manpower decisions. Assume the following values:

$$\begin{aligned} W &= \$4.50 \text{ per hour,} & FB &= \$225, \\ \alpha &= .06, & R &= \$200, \\ C &= \$.50 \text{ per hour,} & M &= \$100, \\ T &= \$7 \text{ per hour,} \end{aligned}$$

^{71/} This is, of course, somewhat of a simplification, since workers continue to receive on-the-job training throughout their employment tenure. However, for this analysis, the important issue is how long will take for newly hired workers to reach the productive capacity of the existing labor force? In this comparison, the efficiency of experienced workers is used as an index of ability.

e = Newly employed workers have an efficiency of 0.7 that of experienced workers. They follow a linear learning curve and achieve $e = 1$ after 160 hours.

Using these values, the equalizing number of hours is 327. An increase in the overtime premium to twice the normal wage would lower the solution to 163 hours, while a triple-time premium decreases this value to 82 hours. Thus, even with extremely high premium rates, some overtime would be used by the firm in response to unanticipated short-term increases in demand.

Several variations of this problem can be illustrated. If the firm has experienced workers awaiting recall, the expenditures on recruiting and training may not be relevant. Removing these costs from equation 3 lowers the number of hours necessary for additional hiring to be the optimal choice for 327 hours to 85 hours. However, if workers are below the straight-time limit of hours per week, additional hours per employee requires no premium and is clearly the appropriate decision for the firm. The existence of a ceiling on earnings subject to the payroll tax can also be shown. Retaining the assumption that all the earnings of a new worker are taxed but now assuming that all overtime compensation is above the ceiling raises by 59 the equalizing number of hours.

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REPORTS OF THE NATIONAL COMMISSION FOR MANPOWER POLICY

- An Interim Report to the Congress of the National Commission for Manpower Policy: *The Challenge of Rising Unemployment*, Report No. 1, February 1975.
- An interim Report to the Congress of the National Commission for Manpower Policy: *Public Service Employment and Other Responses to Continuing Unemployment*, Report No. 2, June 1975.
- First Annual Report to the President and the Congress of the National Commission for Manpower Policy: *Toward a National Manpower Policy*, Report No. 3, October 1975.
- An Interim Report to the President and the Congress of the National Commission for Manpower Policy: *Addressing Continuing High Levels of Unemployment*, Report No. 4, April 1976.
- Second Annual Report to the President and the Congress of the National Commission for Manpower Policy: *An Employment Strategy for the United States - Next Steps*, Report No. 5, December 1976.
- *Proceedings of a Conference on Public Service Employment*, Special Report No. 1, May 1975.
- *Manpower Program Coordination*, Special Report No. 2, October 1975.
- *Recent European Manpower Policy Initiatives*, Special Report No. 3, November 1975.
- *Proceedings of a Conference on the Role of the Business Sector in Manpower Policy*, Special Report No. 4, November 1975.
- *Proceedings of a Conference on Employment Problems of Low Income Groups*, Special Report No. 5, February 1976.
- *Proceedings of a Conference on Labor's Views on Manpower Policy*, Special Report No. 6, February 1976.
- *Current Issues in the Relationship Between Manpower Policy and Research*, Special Report No. 7, March 1976.
- *The Quest for a National Manpower Policy Framework*, Special Report No. 8, April 1976.
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- *Employment Impacts of Health Policy Developments*, Special Report No. 11, October 1976.
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- *Directions for a National Manpower Policy: A Report on the Proceedings of Three Regional Conferences*, Special Report No. 13, December 1976.
- *Directions for a National Manpower Policy: A Collection of Policy Papers Prepared for Three Regional Conferences*, Special Report No. 14, December 1976.
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which may be obtained from the publishers
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- *From School to Work: Improving the Transition*, Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, August 1976. Stock No. 040-000-00364-9. Price \$3.00.
- *Employability, Employment and Income: A Reassessment of Manpower Policy*, Olympus Publishing Company, Salt Lake City, Utah 84105, September 1976.
- *Jobs for Americans*, Prentice Hall, Inc. Englewood Cliffs, New Jersey 07632, October 1976.